NAVIGATION STUDY FOR JACKSONVILLE HARBOR, FLORIDA

DRAFT INTEGRATED GENERAL REEVALUATION REPORT II AND

SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

APPENDIX A ATTACHMENT K PHASE 2

ENGINEERING – Hydrodynamic and Salinity Modeling for Ecological Impact Evaluation

EFDC Salinity Modeling for Jacksonville Harbor GRR-2 Deepening Project (Phase 2)

Draft Report

Prepared for

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by

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EXECUTIVE SUMMARY

The Jacksonville Harbor General Re-evaluation Study Project Management Plan (PMP) provides a plan to identify solutions to improve navigation in federally-maintained channels in the St. Johns River and to evaluate the impacts of these solutions. One of the solutions identified in the plan is deepening the federal navigation channel. The Jacksonville Harbor consists of three segments: Segment 1 (from the St. Johns River entrance channel to River Mile 14) has an authorized existing depth of 40 ft; Segment 2 (from River Mile 14 to River Mile 20) has an authorized depth of 40 feet; and Segment 3 (West Blount Island Channel) has an existing authorized depth of 38 feet. The U.S. Army Corps of Engineers (USACE) provided three alternatives — navigation channel dredging to 44 ft, 46 ft, and 50 ft depth below mean lower low water from east of the river mouth to Mile 14. This study provides evaluations of the impacts of each of these alternatives on river salinity and circulation. The EFDC hydrodynamic and salinity model, validated for the Jacksonville Harbor Deepening project area, provided the means to assess the direct impacts of channel modifications to salinity and water circulation in the main stem of the Lower St. Johns River.

This study applied the model to simulate and analyze the project impact during a six-year evaluation period. The six-year evaluation period includes the lowest river flow during any three-year period in the river's 78-year flow record. Thus, this study's evaluation presents conservative estimates of the impacts of the Jacksonville Harbor Deepening Project. Notably, the evaluations assumed completion of the Mile Point and Mayport deepening projects with the Jacksonville Harbor Deepening Project.

Model results associated with conditions immediately after construction (2018) of the Jacksonville Harbor Deepening Project show that:

- 1. Based on the 10th and 90th percentile of the water level duration curve, the Project at 44 ft will likely increase tide range by 0.2 ft at Long Branch and Main Street Bridge. Based on the 50th percentile of the salinity duration curve, the top, bottom, and depth-averaged, salinity will likely increase by 0.3 0.4 ppt from Dames Point to Buckman Bridge and will likely have very small change upstream of Shands Bridge. The project will likely not reduce water circulation in the study area.
- 2. Based on the 10th and 90th percentile of the water level duration curve, the Project at 46 ft will likely increase tide range by 0.4 ft at Long Branch and Main Street Bridge. Based on the 50th

percentile of the salinity duration curve, the top, bottom, and depth-averaged, salinity will likely increase by 0.5-0.7 ppt from Dames Point to Buckman Bridge and will likely have very small change upstream of Shands Bridge. The project will likely not reduce water circulation in the study area.

3. Based on the 10th and 90th percentile of the water level duration curve, the Project at 50 ft will likely increase tide range by 0.2 ft at Bar Pilot, by 0.4 ft at Long Branch, and by 0.1 ft at Main Street Bridge. Based on the 50th percentile of the salinity duration curve, the top, bottom, and depth-averaged, salinity will likely increase by 0.3 – 1.0 ppt from Dames Point to Buckman Bridge and will likely have very small change upstream of Shands Bridge. The project can slightly impede downstream river flow and slightly increase water age as the project allows more ocean water to flow upstream. However, the change in water age is small enough (e.g., water age stays 7 days longer at select water age values per year) that the project will likely not significantly reduce water circulation in the study area.

Future With Project Model results were compared to Future Without Project (Baseline) conditions with sea level rise and water withdrawal. Model results associated with conditions with 0.39 ft sea level rise and 155 million gallons per day (MGD) upstream river water withdrawal at 50 years after construction of the Jacksonville Harbor Deepening Project show that:

- 1. Based on the 10th and 90th percentile of the water level duration curve, the Project at 44 ft will likely increase future tide range by 0.1 ft at Long Branch and Main Street Bridge. Based on the 50th percentile of the salinity duration curve, the top, bottom, and depth-averaged, salinity will likely increase by 0.5 0.8 ppt from Dames Point to Buckman Bridge and will likely have very small change upstream of Shands Bridge. The project will likely not reduce future water circulation in the study area.
- 2. Based on the 10th and 90th percentile of the water level duration curve, the Project at 46 ft will likely increase future tide range by 0.2 ft at Long Branch and Main Street Bridge. Based on the 50th percentile of the salinity duration curve, the top, bottom, and depth-averaged, salinity will likely increase by 0.6 1.0 ppt from Dames Point to Buckman Bridge and will likely have very small change upstream of Shands Bridge. The project will likely not reduce future water circulation in the study area.

3. Based on the 10th and 90th percentile of the water level duration curve, the Project at 50 ft will likely increase future tide range by 0.1 ft at Bar Pilot, by 0.2 ft at Long Branch, and by 0.1 ft at Main Street Bridge. Based on the 50th percentile of the salinity duration curve, the top, bottom, and depth-averaged, salinity will likely increase by 0.7 – 1.5 ppt from Dames Point to Buckman Bridge and will likely have very small change upstream of Shands Bridge. The project will likely not reduce water circulation in the study area.

In general, the sea level rise and upstream river water withdrawal will likely reduce the above listed project water level impacts by approximately 50%. However, the water age associated with sea level rise and upstream river water withdrawal is about twice more than post-project construction for water ages greater than 150 days.

Finally, this study applied a set of hydraulic and meteorological conditions that are weighted toward low flow dry years for the salinity and circulation modeling. This means the project impacts presented here are likely greater than the project may cause during an average hydrological and meteorological year.

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1.0 INTRODUCTION

The Jacksonville Harbor, as described by the U.S. Army Corps of Engineers, Jacksonville District (USACE), consists of 20 miles (mi) from the St. Johns River mouth in the Atlantic Ocean. The harbor consists of three segments (Figure 1.1): Segment 1 (from the entrance channel to River Mile 14) has an authorized existing depth of 40 feet (ft) below mean lower low water (MLLW); Segment 2 (from River Mile 14 to River Mile 20) has an authorized depth of 40 ft below MLLW; and Segment 3 (West Blount Island Channel) has an existing authorized depth of 38 ft below MLLW.



Figure 1.1 Jacksonville Harbor Segments (Source: USACE)

The Jacksonville Harbor General Re-evaluation Study Project Management Plan (PMP) provides a plan to identify solutions to improve navigation in federally-maintained channels in the St. Johns River and to evaluate the impacts of these solutions. One of the solutions identified in the plan is modification of the federal navigation channel. The USACE, as part of its General Re-evaluation Study to improve Jacksonville Harbor navigation, is assessing the effects of potential channel modifications on the general circulation, salinity, ecology, and water quality in the St. Johns River. This report documents the hydrodynamic modeling, evaluations of the circulation and salinity impacts, and production of the input information for the ecological impact analyses. For the hydrodynamic modeling, the USACE chose to use the Environmental Fluid Dynamics Code (EFDC) to characterize river circulation and salinity for pre- and post-project conditions. The USACE also uses the EFDC model results as input to ecological models in assessments of the effects of potential channel modifications on the ecology in the St. Johns River.

To accomplish the assessments, the USACE provided Taylor Engineering, Inc. on June 5, 2009, a Notice-to-Proceed for Work Order W912EP-06D-0012 (Delivery Order 0010) to perform Phase 1 of the

St. Johns River EFDC circulation and salinity modeling for the Jacksonville Harbor GRR-2 Deepening Project. Phase 1 focuses on the EFDC model data acquisition, model sensitivity analyses, model calibration, and model verification. For the above Work Order, USACE directed Taylor Engineering to refine the existing EFDC model from the St. Johns River Water Management District (SJRWMD) to accommodate details of the potential channel modifications. The SJRWMD calibrated and verified its model for the period 1996 – 2005 for the St. Johns River Water Supply Impact Study (WSIS) (Sucsy et al., 2010). However, simulating effects of the proposed channel deepening template was not possible in the SJRWMD version of the model due to limited model mesh resolution on the river bottom. Thus, Taylor Engineering refined the model mesh, revalidated the refined model, and performed sensitivity analyses. The sensitivity analyses evaluated the influence of the number of horizontal mesh elements across the navigation channel and the number of vertical elements in the water column on simulated water levels and salinity. The model revalidation consisted of model re-calibration and re-verification for select dry, wet, and wind periods in 1996 – 2005.

After completion of the model validation, the USACE provided Taylor Engineering, Inc. on September 30, 2011 a Notice-to-Proceed for Work Order W912EP-10D-0011 (Delivery Order 0003) to perform Phase 2 of the St. Johns River EFDC circulation and salinity modeling for the Jacksonville Harbor GRR-2 Deepening Project. Specifically, Phase 2 focuses on assessment of the direct effects of channel modifications on salinity, and assessment of the cumulative effects of other projects including the Mayport Deepening Project for the U.S. Navy, Mile Point Project, and potential future freshwater withdrawals in the St. Johns River. Phase 2 also includes the post-processing of EFDC model results to provide inputs to the submerged aquatic vegetation, wetlands, fish, benthic macroinvertebrates, and plankton ecological modeling.

This report describes the collection of available data, EFDC model application, analyses of model results, and post-processing of model results for input to ecological models as scoped in Work Order W912EP-10D-0011 (Delivery Order 0003). Following this introduction, Chapter 2 describes the study area. Chapter 3 describes the available data collection and model boundary setup. Chapter 4 describes the modeling of select channel modifications. Chapter 5 describes post-processing of model results. Chapter 6 provides a summary and conclusions.

2.0 STUDY AREA

While the area delineated as the Jacksonville Harbor is northernmost (or lower) 20 mi of the St. Johns River Basin, the entire study area encompasses the lower (northern) 124 mi of the St. Johns River from its mouth near Mayport to upstream of Astor. The study area includes portions of the Atlantic Ocean, the Lower St. Johns River, Chicopit Bay, White Shells Bay, Mill Cove, major river tributaries, sections of the Atlantic Intracoastal Waterway (AIWW), Lake George, and Crescent Lake. Figure 2.1 shows a map of the study area.

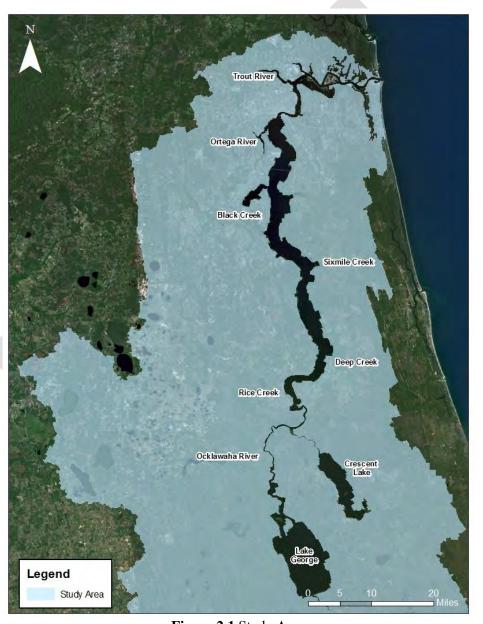


Figure 2.1 Study Area

Tides, winds, and freshwater flows from upstream and tributaries mainly influence the river flow in the study area. Semi-diurnal tide propagates from the Atlantic Ocean and reaches up to Crescent Lake. Measured data shows salinity is highest in the project area, lowest from Green Cove south to Palatka, and increases south of Palatka as the ground water inflows contain salts and calcium.

2.1 Project Area

The project area extends only the first 14 mi of the St. Johns River (i.e., Segment 1 of Jacksonville Harbor). Thus, the proposed Federal navigation channel deepening project area stretches from just east of the St Johns River mouth to mile-marker 14. Along this stretch of the river, the navigation channel width ranges 400 - 1,200 ft. Figure 2.2 shows the main Federal channel mile markers, authorized channel depths, and dredged material sites. The USACE plans to evaluate the impacts of dredging portions of this stretch for depths that range 40 - 50 ft. Although channel deepening considerations extend only to around the Jacksonville Port Authority (JAXPORT) cruise terminal (Mile 13 to Mile 14), the USACE would like to assess the extent of the channel deepening impacts at river areas located further upstream. Thus, the study area includes most of the Lower St. Johns River.

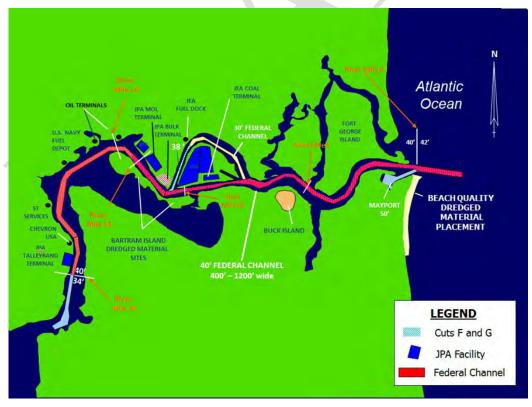


Figure 2.2 St. Johns River Federal Navigation Channel Mile Markers and Authorized Depths (Source: USACE)

2.2 St. Johns River Basin

The St. Johns River, spanning 310 mi, is the longest river in Florida. The St. Johns River drainage basin encompasses over 8,840 square miles (sq. mi) spread across 16 counties (Sucsy and Morris, 2002). A slow-moving water body with very mild slope, the St. Johns River drops an average 0.1 foot per mile (ft/mi) (Toth, 1993). The mild slope of the river allows tidal effects to extend at least 106 mi from the river mouth in Duval County to Lake George in Volusia County. Lake George, with an area of 67 sq. mi, is the second largest lake in Florida. The filling and draining of Lake George, due to subtidal variability of Atlantic Ocean water levels, causes intermittent periods of reverse flow extending far upstream in the Lower St. Johns River. Periods of reverse flow, when the daily net discharge moves upstream, extend the upstream movement of salt as well as upstream dispersal of pollutants entering the river.

The SJRWMD manages and divides the basin into three sub-basins — Upper, Middle, and Lower St. Johns River. The Upper St. Johns River sub-basin extends from the headwaters of the St. Johns River in Okeechobee and Indian River Counties to the confluence of Econlockhatchee River in Seminole County. The Middle St. Johns River sub-basin extends from Lake Harney (Seminole and Volusia Counties) to the confluence of the Ocklawaha River near Welaka. The Lower St. Johns River sub-basin extends from the confluence of the Ocklawaha River to the river mouth at the Atlantic Ocean in Duval County (http://www.protectingourwater.org/watersheds/map). In addition to these three sub-basins, the Lake George and Ocklawaha River Basins also drain into the St. Johns River (Figure 2.3). The incoming ocean tide acts as a nearly pure progressive shallow-water wave over the lower 31 mi, from the river mouth to Jacksonville (Sucsy and Morris, 2002). Located in the Lower St. Johns River, the Jacksonville Harbor main shipping channel, a 23-mi stretch of the river, extends from the river mouth to the JAXPORT Talleyrand Marine Terminal just north of downtown Jacksonville.

2.3 Lower St. Johns River Area

The Lower St. Johns River receives 42% of its total annual freshwater flow from sources upstream of Astor. The surrounding local watersheds of the Lower St. Johns River encompass 2,300 sq. mi, about 27% of the total watershed area (Sucsy and Morris, 2002). The main tributaries of the Lower St. Johns River include Black Creek, Deep Creek, Sixmile Creek, Etonia Creek, Julington Creek, McCullough Creek, Arlington River, Broward River, Dunns Creek, Ortega River, Trout River, and Atlantic Intracoastal Waterway.

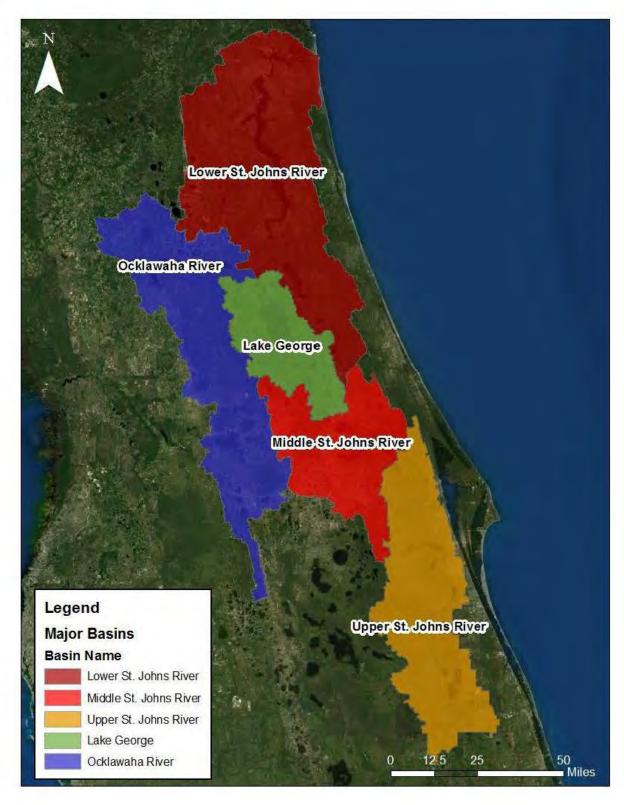


Figure 2.3 Major Tributary Basins and Sub-Basins of the St. Johns River Basin

In the Lower St. Johns River, three major factors govern the upstream extent of salinity — net freshwater discharge entering the upper estuary through Astor, subtidal variability of ocean water levels, and wind. :he 9/8W3. 's /0 . - calibration and verification (covering 1996 – 2001 and 1996 – 2005), showed the salinity front reached an area between Buckman Bridge (Mile 34) and Shands Bridge (Mile 50). Moderate levels of salinity intrusion rarely reached Shands Bridge. Although a water quality monitoring station located about 4.3 mi upstream of Shands Bridge recorded salinity at 5 practical salinity units (5 psu approximately equal to 5 ppt) during May 1994, neither a theoretical maximum nor probability of the extent of upstream salinity intrusion has been determined (Sucsy and Morris, 2002).

Between the river mouth and downtown Jacksonville, highly variable salinity ranges from completely fresh conditions to near ocean levels. At the Acosta Bridge near downtown Jacksonville, salinity ranges from completely fresh conditions due to high river discharges to 28 psu during dry conditions. At Dames Point, farther downstream near Blount Island, salinity ranges from 0.4 to 34.9 psu (Sucsy and Morris, 2002).

3.0 USACE LOWER ST. JOHNS RIVER SALINITY MODEL SETUP

The paragraphs below describe the EFDC model, model bathymetry, model validation, model application boundary setup, and sources of data for the modeling.

3.1 EFDC Model Description

This study employed the Environmental Fluid Dynamics Code (EFDC), the three-dimensional (3-D) numerical model developed by John Hamrick (1996). A public domain modeling package, EFDC simulates multidimensional flow, transport, and biochemical processes in surface water systems including lakes, rivers, estuaries, reservoirs, wetlands, and coastal regions. This model, currently maintained by Tetra Tech with support from the U.S. Environmental Protection Agency (EPA), has a history of extensive use in the United States (e.g., Wool et al., 2003; Sucsy and Morris, 2002; Jin et al., 2000; and Hamrick et. al, 1995). More recently, the SJRWMD (2011) presents the completed application of the model to quantify the effects of water withdrawals on hydrodynamics throughout the St. Johns River. The EFDC model has undergone extensive tests, documentation, and applications in more than 200 modeling studies worldwide by research institutions, governmental agencies, and consulting organizations (Hamrick, 2011).

The hydrodynamic model, based on the 3-D shallow water equations of motion, includes dynamically coupled salinity and temperature transport. Appendix A describes the governing equations of the EFDC model. The physics of the EFDC model, and many aspects of the computational scheme, are similar to the widely used Blumberg-Mellor model, which later became Princeton Ocean Model (Blumberg and Mellor, 1987). The EFDC model employs a curvilinear-orthogonal horizontal grid, and a stretched or sigma vertical coordinate. In addition to hydrodynamic, salinity, and temperature transport simulation capabilities, EFDC can also simulate cohesive and non-cohesive sediment transport, near field and far field discharge dilution from multiple sources, eutrophication processes, transport and fate of toxic contaminants in the water and sediment phases, and transport and fate of various life stages of finfish and shellfish.

3.2 Model Validation

The model applied for this study originated from the Lower St. Johns River Hydrodynamic Model developed by the SJRWMD for its Water Supply Impact Study (WSIS), hereinafter called the 2010 SJRWMD EFDC model (SJRWMD, 2011). The SJRWMD calibrated and verified its 2010 model with data from a 10-year period (1996 – 2005). The 2010 SJRWMD EFDC model domain covers the entire Lower St. Johns River (LSJR) and major tributaries from Astor upstream of Lake George to the Atlantic Ocean. The model domain comprises 4,295 curvilinear horizontal water cells with the model variables (water surface elevation, velocity, temperature, salinity, etc.) calculated within each cell over the model simulation period. Each horizontal cell comprises six equally divided layers in the vertical direction. Thus, six equally stretched layers compose the model's vertical dimension.

Following directions from the USACE, Taylor Engineering (2013) documents model sensitivity analyses for the 2010 SJRWMD EFDC and the USACE model validation completed during execution of Work Order W912EP-06D-0012 (Delivery Order 0010) for Phase 1 of the St. Johns River EFDC circulation and salinity modeling for the Jacksonville Harbor GRR-2 Deepening Project. For the sensitivity analyses, Taylor Engineering applied three elements to refine the 2010 SJRWMD EFDC model mesh along the first 23 mi of the navigation channel. Sensitivity analyses on the mesh refinement showed increasing the number of elements in the navigation channel to more than three elements does not provide better comparison with the measured salinity. Hereinafter, the validated refined mesh model is called the USACE model.

3.3 USACE Model Setup

The USACE model domain covers the entire LSJR including the SJR downstream of Astor and major tributaries, and extends farther offshore into the Atlantic Ocean. The model domain comprises 4,824 horizontal cells, with six vertical layers to each cell; the model calculates hydrodynamic variables within each cell and layer over the model simulation period. Figure 3.1 shows the horizontal model cells embedded within a transformed 129 x 267 quadrilateral computational grid with cell length sizes ranging from 233 – 29,320 ft. The model setup requires incorporation of baseline and project alternatives dredging depths and reassigning of the 2010 SJRWMD /0 . - model's boundary conditions to the USACE model mesh. The following paragraphs describe observations on the USACE-supplied project bathymetries and collected boundary condition data from the SJRWMD. The SJRWMD provided, processed, and quality assured all boundary conditions data.

3.3.1 *Model Mesh Bathymetry*

The SJRWMD provided its 2010 SJRWMD EFDC bathymetry and the USACE provided the shapes files and scatter data for the bathymetries for the 40-, 44-, 46-, and 50-foot (ft) project depths from mean lower low water (MLLW). Figure 3.2 through Figure 3.6 show the model bathymetry for the various USACE dredging alternatives — 40, 44, 46, and 50 ft below MLLW. : he ; 9+-/'s recommended depth will become available in January 2013. All the model simulations have similar bathymetries upstream of Mile 14.

3.3.2 Boundary Conditions

Boundary conditions used for the USACE model forcing include ocean water level, ocean salinity, lateral discharge and salinity, wind, rainfall, and evaporation. Ocean water level and salinity define the seaward (downstream) open ocean boundary. Notably, the SJRWMD provided the 2010 SJRWMD EFDC models with the temperature variable switched off which means the USACE model does not include the effect of temperature changes in the model simulations. The USACE model boundary conditions span a period that allows the model to run for the 1995 – 2005 period. The SJRWMD provided the locations and time series of proposed 155 million gallon per day (MGD) water withdrawal.

3.3.2.1 Ocean Water Level and Salinity

Ocean water level provides the hydraulic forcing function along the 54 ocean boundary cells at the eastern side of the USACE model grid (Figure 3.7). Provided by the SJRWMD, the ocean water level is a time-series of hourly water surface elevation — vertical displacements above or below the mean tide level (Figure 3.8). Sucsy et al. (2010) stated creation of the ocean water level time-series was by a superposition of predicted astronomical tide and observed meteorological tide. During the simulation years, ocean water levels — dominated by semidiurnal tides (Figure 3.9) — ranged from -5.18 to +4.33 ft NAVD. For model simulations that include water withdrawal and sea level change, the USACE calculated the sea level rise based on current historic rates and provided a constant sea level rise of 0.39 ft (to represent sea level change after 50 years). As in the original SJRWMD model, ocean salinity was set at a constant value of 35.5 parts per thousand (ppt) at the eastern side of the 54 ocean boundary cells.

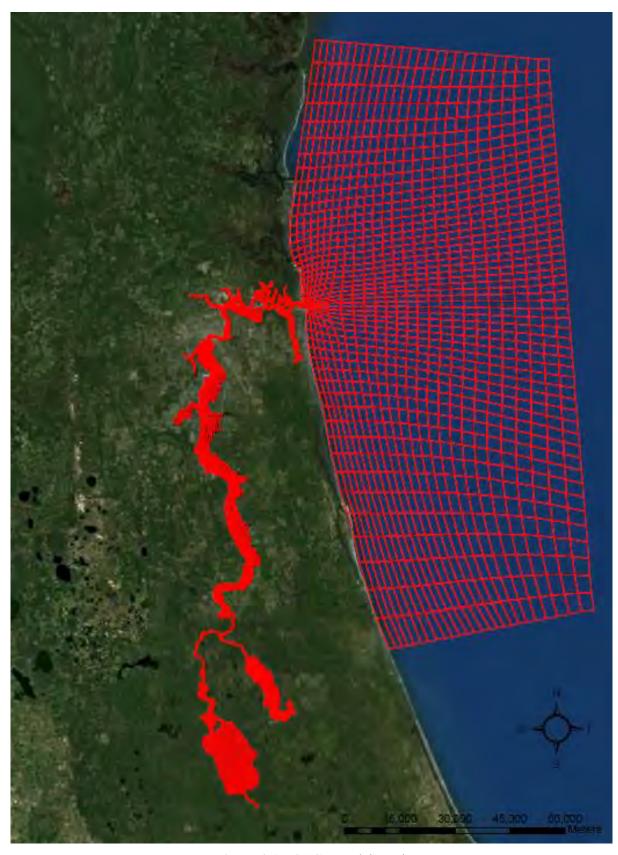


Figure 3.1 USACE Model Mesh

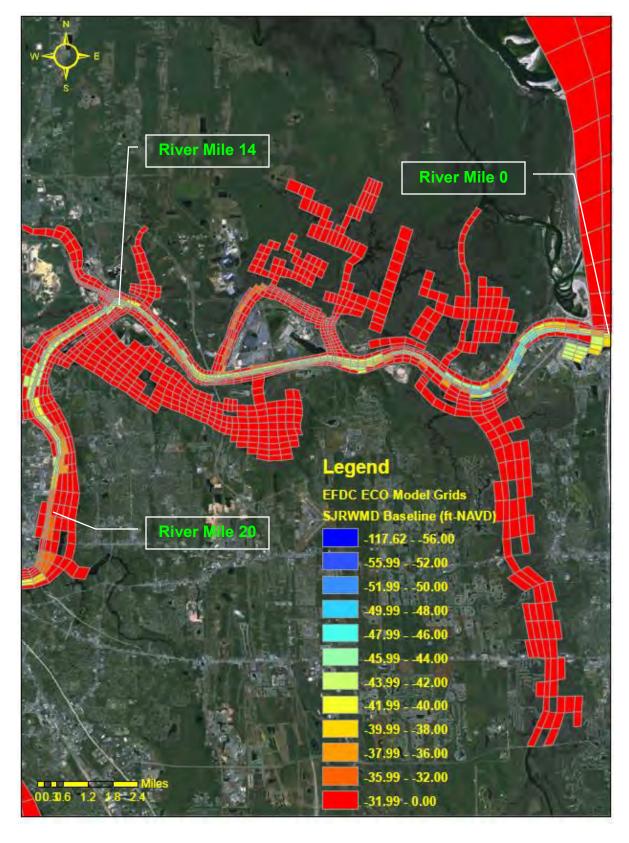


Figure 3.2 Model Bathymetry for SJRWMD Baseline Model Simulation

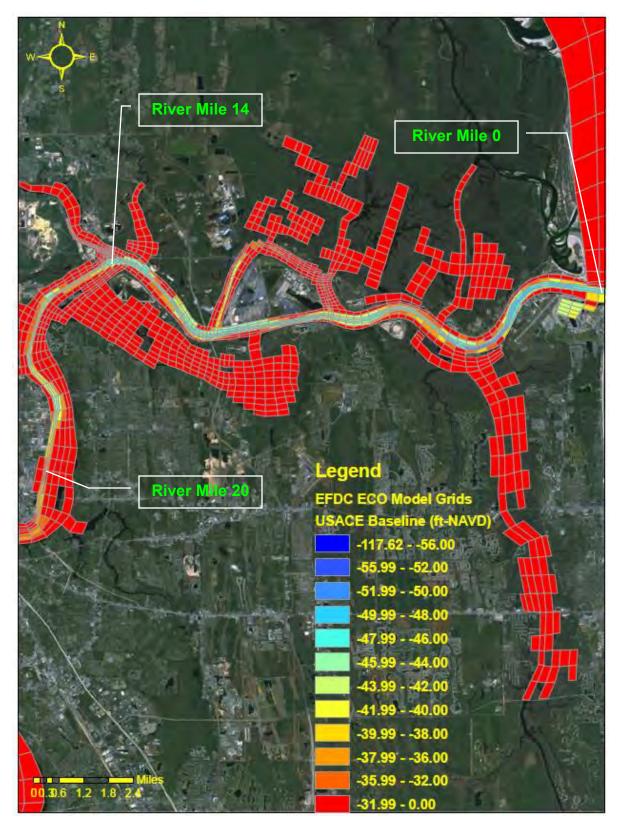


Figure 3.3 Model Bathymetry for USACE Baseline Model Simulation

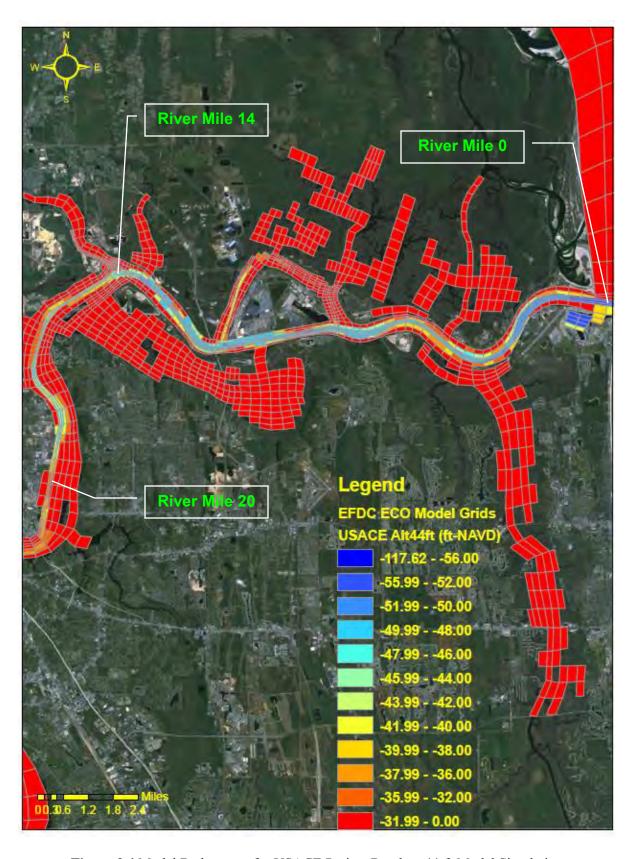


Figure 3.4 Model Bathymetry for USACE Project Depth at 44-ft Model Simulation

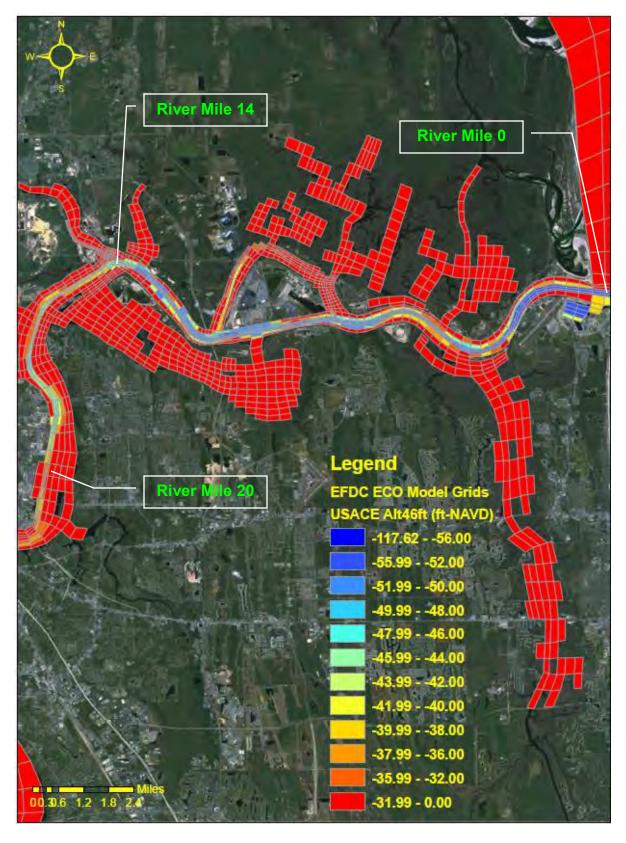


Figure 3.5 Model Bathymetry for USACE Project Depth at 46-ft Model Simulation

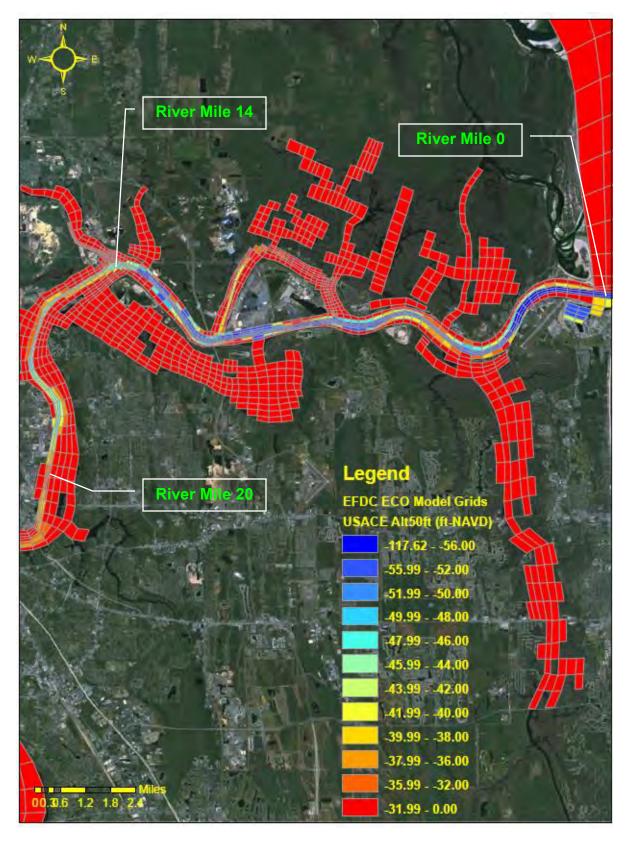


Figure 3.6 Model Bathymetry for USACE Project Depth at 50-ft Model Simulation

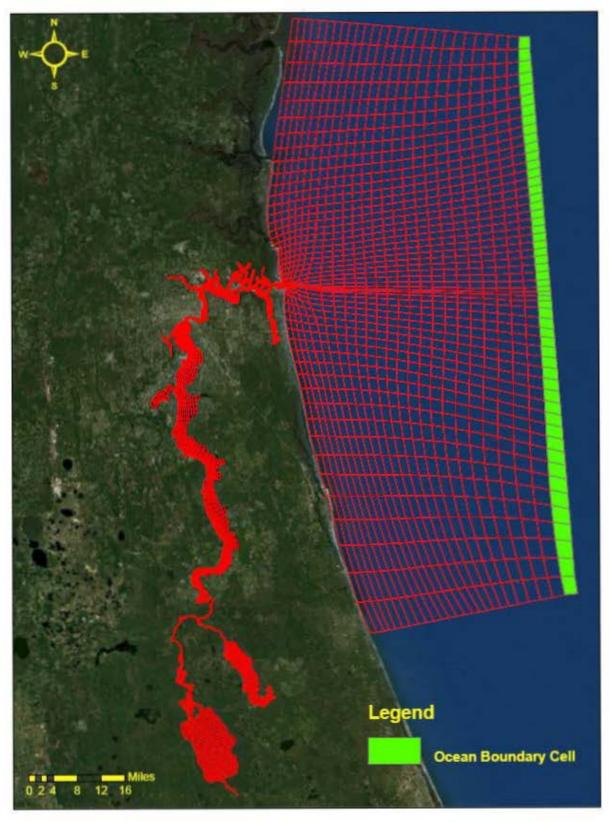


Figure 3.7 Ocean Boundary Cells of LSJR Hydrodynamic Model

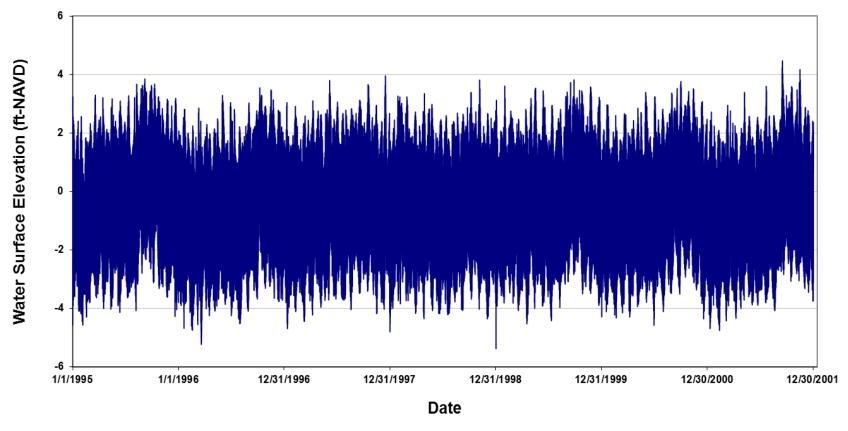


Figure 3.8 Ocean Water Level Boundary Condition from 1/1/1995 – 12/31/2001

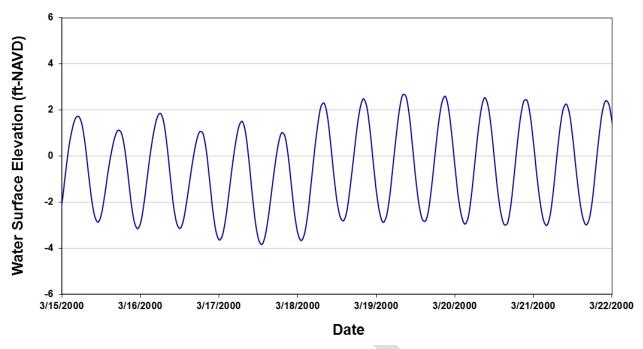


Figure 3.9 Ocean Water Level Boundary Condition during 7-day period in 2000

3.3.2.2 Lateral Discharge and Salinity

Lateral discharge enters the model in various ways: (a) as inflow (either observed or estimated) at the upstream boundary at Astor, (b) as point source discharges at various locations, (c) as diffuse groundwater into the bottom cell layer, or (d) as direct rainfall into the top cell layer. Table 3.1 and Figure 3.10 provide the locations of the 146-point source discharges representing surface tributaries, springs, and wastewater treatment outfalls in the model as continuous daily values. : he 9/8 W3 . 's 2 ydrologic Simulation Program-Fortran (HSPF) model that applied 1995 land use information provided the lateral discharge for the period 1995 – 2005 (Cera et al., 2010). Spring discharges, controlled by groundwater and thus more temporally constant, were input as monthly values. The relatively small wastewater treatment outfalls and diffuse groundwater inflows were input as annual average values (Sucsy et al., 2011). Figure 3.11 shows discharge time series of the two largest LSJR tributaries — SJR upstream at Astor and Ocklawaha River — during the simulation period. Ocean forcing or wind setup likely reverses flow events at Astor. The SJRWMD also provided the locations and time series of future water withdrawal in St. Johns River.

Table 3.1 Model Lateral Inflows and Locations (NAD83 State Plane Florida East)

Lateral Inflow Boundary		
Condition	X (ft)	Y (ft)
SJR at Astor	489000.5	1757812.6
Mill Branch	466858.1	1929219.9
Rice Creek	450107.5	1949998.8
Dog Branch	474891.8	1952071.3
Mason Branch	476023.8	1966305.9
Deep Creek	489116.7	1974692.1
Moccasin Branch	489286.9	1979059.5
McCullough Creek	486623.4	1983114.4
Cedar Creek	470243.5	1991457.1
Tocoi Creek	477498.0	2008924.5
Clarkes Creek	458919.0	2023691.7
Sixmile Creek	477258.5	2049533.7
Orange Grove Branch	453996.8	2065794.2
Governors Creek	439222.9	2062986.5
Black Creek	432520.0	2076266.1
Cunningham Creek	453337.7	2094939.6
Swimming Pen Creek	418930.7	2100020.9
Doctors Lake West	418279.7	2106769.4
Lucy Branch	421561.1	2110936.7
Doctors Lake East	427265.2	2110692.2
Ortega River	432164.1	2144437.2
Cedar River	422475.4	2161624.8
Trout River	428165.1	2212870.0
Broward River	457177.2	2219288.7
Dunn Creek	471907.9	2219223.1
Gin House Creek	490079.7	2190399.3
Pottsburg Creek	464027.0	2175706.8
Julington Creek	455205.5	2107045.9
Moccasin Creek	451361.1	1952900.8
Unnamed Creek	462970.6	2007282.7
Kendall Creek	458743.0	2062899.5
Kentucky Branch	443729.7	2080590.1
Peters Branch	438207.4	2098554.7
Durbin Creek	455205.5	2107045.9
Flora Branch	455205.5	2107045.9
Cormorant Creek	455205.5	2107045.9
Unnamed Creek	447316.3	2164842.8
Christopher Branch	455925.3	2148859.6

Lateral Inflow Boundary		
Condition	X (ft)	Y (ft)
New Rose Creek	450306.1	2155947.8
Craig Creek	449162.8	2168399.6
Miller Creek	457192.3	2174016.6
Unnamed Creek	467281.8	2200358.4
Unnamed Creek	470535.1	2198282.6
New Castle Creek	472998.6	2196638.3
Jones Creek	487040.8	2190350.1
Cow Head Creek	488582.5	2190264.8
Unnamed Creek	501851.0	2201996.1
Mt Pleasant Creek	510757.5	2196387.2
Drummond Creek	463476.8	2208340.1
Moncrief Creek	447873.2	2204805.4
Ribault River	444027.5	2208898.8
Block House Creek	439425.8	2212889.7
West Branch	434011.5	2213031.6
Hogan Creek	451735.6	2177327.3
Long Branch	456397.0	2195606.1
McCoy Creek	445474.9	2177713.7
Big Fishweir Creek	433328.7	2165047.9
Williamson Creek	423147.6	2161094.8
Butcher Pen Creek	425615.5	2158247.7
Fishing Creek	428154.9	2156624.8
Unnamed Creek	441769.9	2138504.3
Orange Park Slough	437123.7	2119466.5
Goodbys Creek	457756.1	2138708.6
Deep Bottom Creek	451533.9	2125723.5
Juniper	461324.2	1772616.7
Silver Glen	455119.7	1787626.7
Salt Spring	440561.6	1815065.5
Croaker Hole	436366.9	1856363.9
Ocklawaha River	438149.8	1867736.6
Beecher	448584.0	1852960.5
Mud Creek	443313.1	1863729.4
Welaka	440593.7	1876542.9
Nashua	439841.2	1882191.2
Satsuma	439889.5	1883309.5
Glen Surface	455856.0	1785515.6
Juniper Surface	462498.7	1771037.3
Jumping Gully	476479.0	1769542.3

Lateral Inflow Boundary		
Condition	X (ft)	Y (ft)
Hitchens	476479.0	1769542.3
Willow	486200.2	1803053.5
Tiger	467010.4	1829089.2
Buzzard	441026.1	1857567.5
Norwalk	438930.0	1837861.1
Drayton I	449700.6	1831466.2
Salt Surface	441167.9	1812592.5
Acosta Creek/ N Side Ocklawaha East	440151.0	1880089.1
N Side Ocklawaha West	434562.2	1892166.7
Camp Branch	434562.2	1892166.7
Buckman Lock	433691.2	1900090.1
Bull Creek Crescent Lake	516819.0	1851764.2
Salt Canal Crescent Lake	495893.8	1879416.3
Cresent Lake West	491449.9	1866313.1
Local Dunns Creek Watershed	462537.8	1904090.0
Little Haw Creek	521713.3	1842256.4
Middle Haw Creek	521713.3	1842256.4
Intracoastal Waterway (ICW)	523081.4	2160952.7
Sherman (ICW)	517205.9	2193775.6
RCH2 (ICW)	517816.7	2186133.6
Hopkins (ICW)	521906.2	2172968.0
Hogpen (ICW)	518737.0	2176780.0
RCH6 (ICW)	521906.2	2172968.0
Open Creek (ICW)	521511.9	2154903.3
Intracoastal Waterway (ICW)	521511.9	2154903.3
Intracoastal Waterway (ICW)	521511.9	2154903.3
Pablo Creek (ICW)	521511.9	2154903.3
Intracoastal Waterway (ICW)	521511.9	2154903.3
Flow106	490950.4	2224717.1
Marsh Point 2	501662.3	2224368.4
Marsh Point 3	505122.5	2218692.2
Marsh Point 4	513015.0	2211563.0
Marsh Point 5	494340.7	2213689.7
Mandarin WWTF	452873.5	2128788.0
Buckman WWTF	460711.9	2187353.7
Arlington East WWTF	482690.6	2193602.5
JAX District II WWTF	464413.3	2208848.0
Southwest Dist WWTF	440813.4	2151024.1
Stone Container Corp	465512.4	2212923.4

Lateral Inflow Boundary Condition	X (ft)	Y (ft)
Jefferson Smurfit Corp	458600.9	2194603.5
Georgia Pacific	450107.5	1949998.8
USN Mayport	530982.0	2204729.9
NAS JAX	442140.9	2149175.5
Jax Beach	517730.6	2199512.4
Green Cove Springs	437131.0	2066502.3
Wesley Manor Retirement Village	455205.5	2107045.9
Neptune Bch WWTF	517730.6	2199512.4
Buccaneer WWTF	517730.6	2199512.4
Montery WWTF	462773.4	2180161.3
Holly Oaks Subdivision	490079.7	2190399.3
San Jose Subdivision	454588.7	2148315.7
Jax Heights	428154.9	2156624.8
Orange Park	436750.8	2125957.4
San Pablo WWTF	523081.4	2160952.7
Miller Street WWTP	436750.8	2125957.4
Ortega Hills Subdivision	432164.1	2144437.2
Royal Lakes	458263.6	2142154.6
Beacon Hills WWTF	492651.3	2202001.9
Woodmere Subdivision	459911.2	2202122.4
S. Green Cove WWTF	447691.0	2056403.7
Fleming Oaks WWTP	437583.1	2086777.4
Atlantic Beach WWTF	517730.6	2199512.4
Palatka	453143.2	1912887.3
Anheuser Busch	457177.2	2219288.7
Hastings	489116.7	1974692.1
Julington WWTP	453337.7	2094939.6
Fleming I WWTP	438007.7	2094598.3
Beauclerc STP	457636.8	2145283.1
United Water FL	453337.7	2094939.6

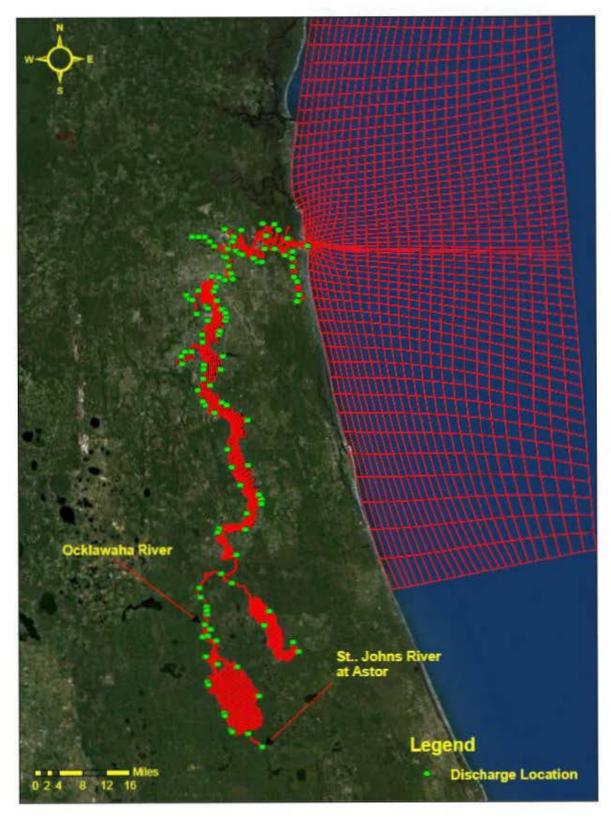


Figure 3.10 Locations of Lateral Discharge Boundary Condition Points

Discharges of Two Major Tributaries of Lower St. Johns River

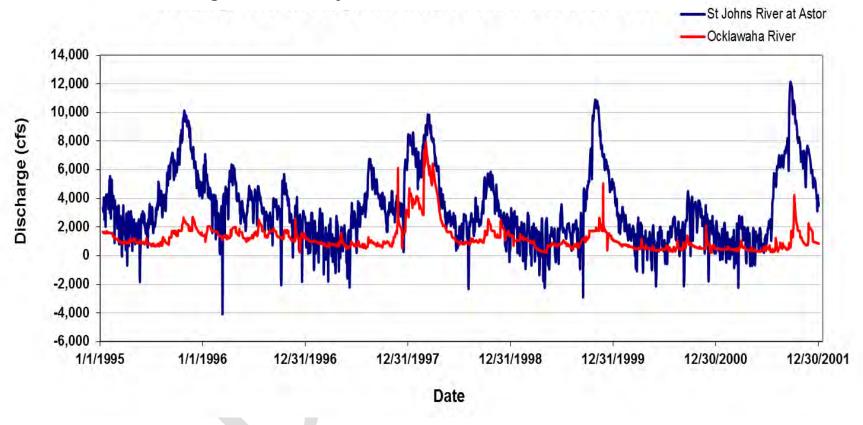


Figure 3.11 Discharge Boundary Condition of LSJR from 1/1/1995 – 12/31/2001

The SJRWMD assigned a salinity value to all water entering the model domain by employing one of four sources: observed data, site-specific discharge-salinity relationship, generic discharge-salinity relationship, or constant. The SJRWMD used observed data for locations where observations spanned the entire simulation period (1995 – 2001) with adequate temporal resolution. Observed locations occur in the main stem of Astor, Rice Creek, and Deep Creek. The SJRWMD developed site-specific discharge-salinity relationships for tributaries with limited observed data and generated generic discharge-salinity relationships in areas with no data. The SJRWMD developed discharge-salinity relationships for Crescent Lake watershed. Using these methods, the SJRWMD developed time series of salinity in the range 0.04 – 3.36 ppt. Finally, the SJRWMD provided a low, constant value of 0.04 ppt to all LSJR surface tributaries downstream of Rice Creek and Deep Creek where ocean salinity becomes dominant (Sucsy et al., 2011). On average, the observed data for the LSJR indicate the highest salinity occurs in the summer and lowest occurs in the winter.

3.3.2.3 Meteorology: Rainfall, Evaporation, and Wind

For the selected model simulation periods, wind, rain, and evaporation all vary spatially and temporally over the model grid. The SJRWMD provided observed data for locations where observations span the entire model simulation period (1995 – 2001) with adequate temporal resolution. The EFDC model accounts for the spatial variability of this input data by inverse distance interpolation. The interpolation method calculates each variable based on values from the three nearest stations to a given model grid cell.

Table 3.2 provides the name, coordinates, and period of record of the five National Weather Service rainfall and evaporation stations near the river and Figure 3.12 shows the locations of these stations. Figure 3.13 shows the average daily rainfall from all five stations over the simulation years. The rainfall over the study area has a distinct seasonal pattern. High rainfall normally occurs from June to October, while low rainfall occurs from November to May.

Using the 1985 Hargreaves Method (Hargreaves and Allen, 2003) at the same location as the rainfall stations above, the SJRWMD applied potential evapotranspiration (PET) estimates to the hydrodynamic model. The Hargreaves Method, the highest-ranked temperature-based method for calculating PET (Jensen et al., 1990), requires only observed minimum and maximum air temperature, and estimated solar radiation to estimate PET, a direct estimate of actual evaporation over open water.

The SJRWMD also provided hourly wind data from National Oceanic and Atmospheric Administration (NOAA) sites located at airports and the Florida Automated Weather Network (FAWN). Table 3.3 provides the name, coordinates, and period of record of these stations. All the stations provide hourly wind speed and direction, and record wind at a standard height of 10 meters (Sucsy et al., 2011).

Table 3.2 Stations near the Lower St. Johns River with Observed Rainfall and Evaporation Data

NOAA Station ID	Station Name	Period of Record	North Latitude	West Longitude
NOAA 4538	Jacksonville International Airport	1948 – Present	# 29.7	81°\$!.6
NOAA 4366	Jacksonville Beach	1948 – Present	# 17.#	81° "#.6
NOAA 2915	Federal Point	1931 – Present	29 \$%#	81°#".#
NOAA 1978	Crescent City	1931 – Present	29"%	81°# .8'
NOAA 2229	Deland	1931 – Present	29° !.!	81° 18.6



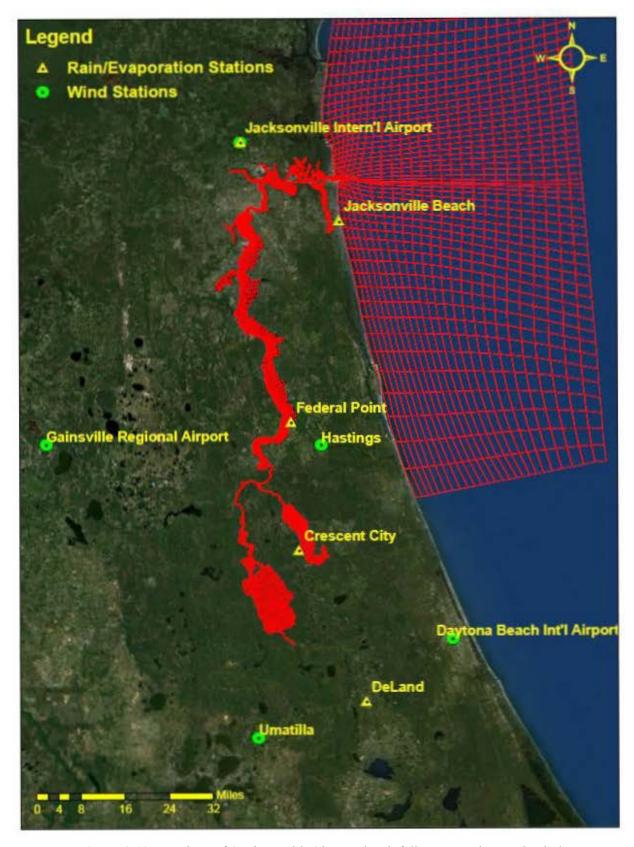


Figure 3.12 Locations of Stations with Observed Rainfall, Evaporation, and Wind

Daily Average Rainfall in Lower St. Johns River

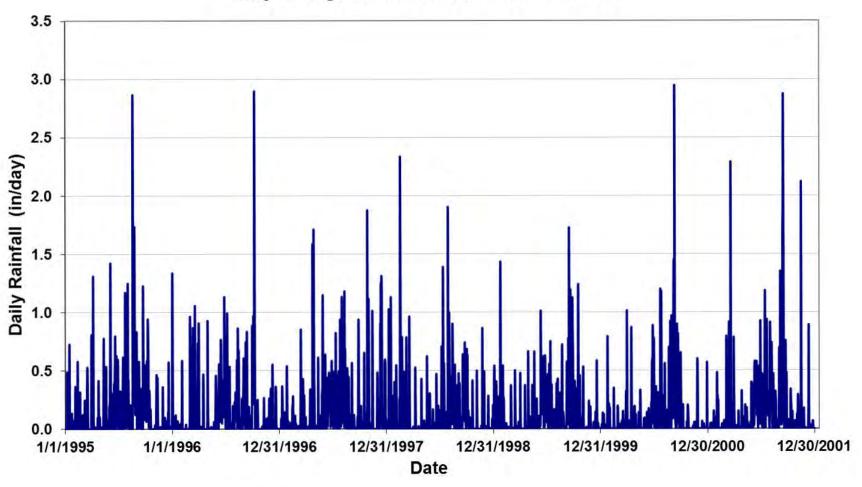


Figure 3.13 Daily Average Rainfall from Five Rainfall Stations from 1/1/1995 – 12/31/2001

Table 3.3 Stations near the LSJR with Observed Wind Data

Station ID	Station Name	Period of Record	North Latitude	West Longitude
NOAA 13384	Jacksonville International Airport	1948 – Present	# 29.7	81°\$!.6
FAWN 270	Hastings	1999 – Present	29°\$!.6	81° 26.7′
NOAA 12816	Gainesville Regional Airport	1984 – Present	29 \$! .%	82°16.%
NOAA 12834	Daytona Beach International Airport	1948 – Present	29'!! .	81° ".9'
FAWN 302	Umatilla	1998 – Present	28 %%	81° 37.9′



4.0 EVALUATION OF PROJECT IMPACTS ON SALINITY AND CIRCULATION

The USACE used the calibrated and verified USACE model to examine changes to salinity and water age regime resulting from the proposed channel deepening and other actions (widening the channel at select locations and constructing a turning basin) throughout the study area. In addition to simulating potential salinity and water changes, the model results also provide the input data required for any assessment of dredging impacts on ecology and water quality. The USACE required a six-year evaluation period with a one-year model ramp-up period to minimize the effect of model initial conditions on model simulations. The paragraphs below describe the selection of an evaluation period, model simulations, and model results for the baseline and project alternative simulations.

4.1 Evaluation Period

The USACE wishes to evaluate the project when salinity conditions in St. Johns River are greater than the average conditions to ensure that the study provides a conservative (i.e., greater than average) evaluation of the project impacts. As the available SJRWMD model input data falls during 1995 – 2005, the USACE selected six consecutive years in this period that includes very dry years (i.e., years with very low river flow and high river salinity). To determine the six-year period, the USACE reviewed the U.S. Geological Survey (USGS) 1992 – 2011 river flow data at USGS stations at Deland, Astor, and Buffalo Bluff to select a six-year period. Notably, a USGS hydrological year spans October 1 – September 30.

The USACE provided Figure 4.1 to support its selection of 1996 – 2001 as its six-year evaluation period. The USACE further concluded that 1996 – 2001 contains the lowest (driest) three consecutive year flow in the available 78-year flow record. : hus, following; 9+-/'s selection of the evaluation period, the USACE model simulations applied the input data for the years 1995 – 2001 for six-year evaluation periods and 1995 – 2000 for the SJRWMD Baseline simulation. Model simulations included 1995 as one-year model ramp up period. In all simulations, initial water surface elevation was set to 0.0 ft NAVD and initial salinity in the river was set to 0.0 ppt. The year 1995 provided adequate model ramp up period to allow water levels and salinity to reach equilibrium conditions and minimize the effect of initial model conditions.

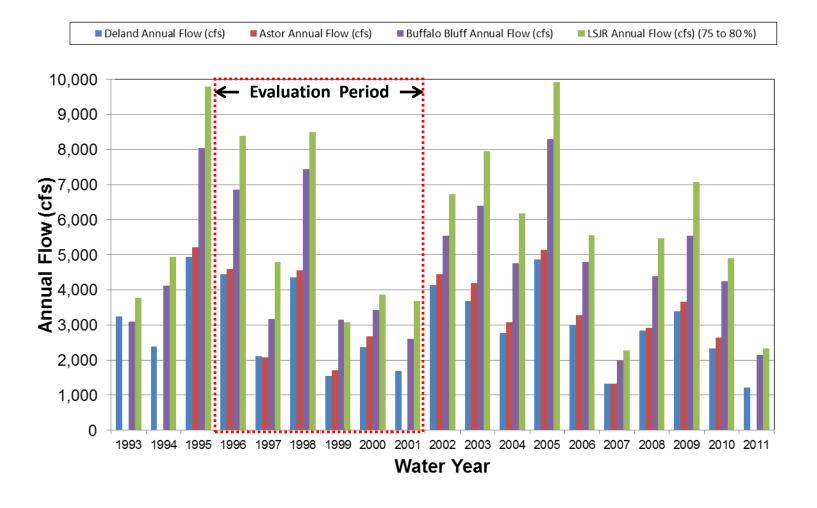


Figure 4.1 Annual Flows from USGS Stations (1992 – 2011) and the Selected Six-Year Evaluation Period

4.2 Model Simulations Scenarios

The USACE provided three alternative channel dredging templates whose impacts are described in Sections 4.3 and 4.4. The first, second, and third dredge templates consist of dredging the existing navigation channel to 44 ft, 46 ft, and 50 ft depth respectively from east of the river mouth to Mile 14. Table 4.1 provides a matrix of the 12 model simulations that provide the means to evaluate circulation and salinity in the river for the no-project scenarios (baselines) and for each of the three dredging templates. For the purpose of evaluation of impacts, these simulations are grouped into the following scenarios:

1. 2018 scenarios

- a. Pre-Project USACE Baseline at 40 ft (no Jacksonville Harbor Deepening Project) with Mile Point construction and Mayport deepening projects completed,
- Post-Project Construction Jacksonville Harbor Deepening Project at 44, 46, 50
 ft, or other recommended depth with Mile Point construction and Mayport deepening projects completed.

2. 2068 scenarios with sea level rise of 0.39 ft and 155 MGD river water withdrawal

- a. 50 Years No Project 50 years after USACE Baseline at 40 ft (no Jacksonville Harbor Deepening Project) with Mile Point construction and Mayport deepening projects completed,
- b. 50 Years Post-Project Construction 50 years after construction of Jacksonville Harbor Deepening Project at 44, 46, 50 ft, or other recommended depth with Mile Point construction and Mayport deepening projects completed.

3. SJRWMD Baseline

The SJRWMD baseline scenario did not apply 2009 and 2010 bathymetric surveys data from the river mouth to Mile 23 but retained the bathymetry data from the 2010 SJRWMD EFDC model mesh. In all scenario simulations, the USACE model applied the 2010 SJRWMD EFDC model bathymetry for locations upstream of Mile 23.

Table 4.1 Model Simulation Scenarios

Scenario ¹	Period of Bathymetry Simula-		Channel Depth (ft, Mean Lower Low Water)				Water Withdrawal		Sea Level			
	tion (years)	WSIS ²	USACE ³	WSIS ⁴	40	44	46	50	None	155 MGD	No Change	Sea Level Rise 0.39 ft
USACE Baseline at 40 ft	7		X		X				X		X	
USACE Baseline at 40 ft	7		Х		X					X		X
USACE Project at 44 ft	7		Х			x			X		X	
USACE Project at 44 ft	7		x			x				X		X
USACE Project at 46 ft	7		X				x		X		X	
USACE Project at 46 ft	7		Х				X			X		X
USACE Project at 50 ft	7		X					X	X		X	
USACE Project at 50 ft	7		x					x		X		X
USACE Baseline at 40 ft	7		х		X				X		X	
SJRWMD Baseline	6	х		X					X		X	
USACE Project at Recommended Depth ⁵	7		x						X		X	
USACE Project at Recommended Depth ⁵	7		X							X		X

Notes: 1+11 simulations run with 9/8 W3 . 's 29 60 model inflows based on 1995 land use data.

2WSIS bathymetry without Mile Point or Mayport projects

3USACE baseline with Mile Point and Mayport projects

4WSIS channel depth and length configuration

5USACE recommended channel depth and length configuration available in January 2013

For model simulations with the Jacksonville Harbor Deepening Project, the model applied the corresponding bathymetry near the navigation channel as shown in Figure 3.4 (44 ft NAVD), Figure 3.5 (46 ft NAVD), and Figure 3.6 (50 ft NAVD). Except for the SJRWMD baseline scenario, all model simulations used a seven-year simulation period (with on-year model ramp up period included) and provided results for a six-year evaluation period. Comparison of post-project and pre-project model results provides impact on salinity and circulation of the Jacksonville Harbor Deepening Project at project construction in 2018 and at 50 years after project construction in 2068. Comparison of 2018 USACE baseline scenario and SJRWMD baseline scenario results provided the means to evaluate the impact of changing model bathymetry downstream of Mile 23 from the 2010 SJRWMD EFDC model bathymetry to the USACE 2009/2010 survey data and the Mile Point and Mayport deepening projects.

4.3 2018 Scenarios

The USACE describes the 2018 scenarios as conditions before and after construction of the Jacksonville Harbor Deepening Project. These scenarios apply river bathymetry based on 2009 and 2010 bathymetric surveys up to Mile 23, include completed Mile Point construction, and include completed Mayport deepening projects. Model simulations consist of 1995 – 2001 model inputs with navigation channel bathymetry set at 40 ft (baseline or without project), 44 ft, 46 ft, and 50 ft below MLLW. The paragraphs below describe the model results for the baseline and project scenarios. Comparisons with the 2018 baseline scenario results provide the means to evaluate project impact for the various project dredging depths immediately after project construction. Appendix B provides more detailed scenario statistics (e.g., probability salinity was below select threshold values or water age was older than specific number of days) for all six layers of the model.

4.3.1 Baseline at 40 ft

4.3.1.1 Baseline Water Level

A plot of a duration curve provides the amount of time (expressed as a percentage of the evaluation period) that the water level was below a water level indicated along the verical axis of the plot. Duration curves of modeled baseline water levels provide a summary of the pre-project water level regime at select locations along the river. The 10, 50, and 90 precentile of the duration curves provided estimates of low, median, and high tide levels. Table 4.2 provides the station locations and provides estimates of the baseline low, median, and high tide levels at Bar Pilot, Long Branch, Main Street Bridge, Buckman Bridge, and Shands Bridge.

Table 4.2 Water Level Station Coordinates and Baseline Low Tide, Median Tide, and High Tide Levels

Station	Coord (Florida Ea		Water Level (ft NAVD) at Non-Exceedance Percentage			
Station	Easting (ft)	Northing (ft)	10 % (Low Tide)	50% (Median Tide)	90% (High Tide)	
Bar Pilot	521362.8	2205006.1	-2.9	-0.5	1.6	
Long Branch	460589.9	2190394.9	-1.9	-0.3	1.4	
Main Street Bridge	448370.5	2177227.7	-1.5	-0.2	0.9	
Buckman Bridge	438063.9	2130295.8	-0.9	-0.1	0.8	
Shands Bridge	455653.2	2054272.6	-0.8	0.0	0.8	

4.3.1.2 Baseline Salinity

At Dames Point, model results show baseline salinity averaged 24.3 ppt and was below 19.7 ppt (top), 29.0 ppt (bottom), and 25.1 ppt (depth-averaged) for 50% of the time. At Acosta Bridge, model results show salinity averaged 11.5 ppt and was below 9.0 ppt (top), 12.5 ppt (bottom), and 11.3 ppt (depth-averaged) for 50% of the time. At Buckman Bridge, model results show salinity averaged 4.0 ppt and was below 1.5 ppt (top), 2.0 ppt (bottom), and 1.9 ppt (depth-averaged) for 50% of the time. At Shands Bridge, model results show salinity averaged 0.7 ppt and stayed below 0.6 ppt and 1.4 ppt for 50% and 90% of the time. Table 4.3 and Figure 4.2 provide the locations of the salinity station.

Table 4.3 Coordinates of Salinity and Water Age Stations

Station	Coordinates (Florida East NAD83)					
Station	Easting (ft)	Northing (ft)				
Dames Point*	480417.8	2200765.9				
Acosta Bridge*	446530.3	2177910.3				
SAVPTLV	446518.8	2161357.8				
JAXSJR40	448483.4	2152253.3				
SAVBOLS	456792.0	2148064.6				
Buckman Bridge*	445690.1	2129728.0				
SJRHBP	438867.6	2084823.0				
Shands Bridge*	458967.6	2053865.7				

Note: * Stations with calculated salinity duration curves

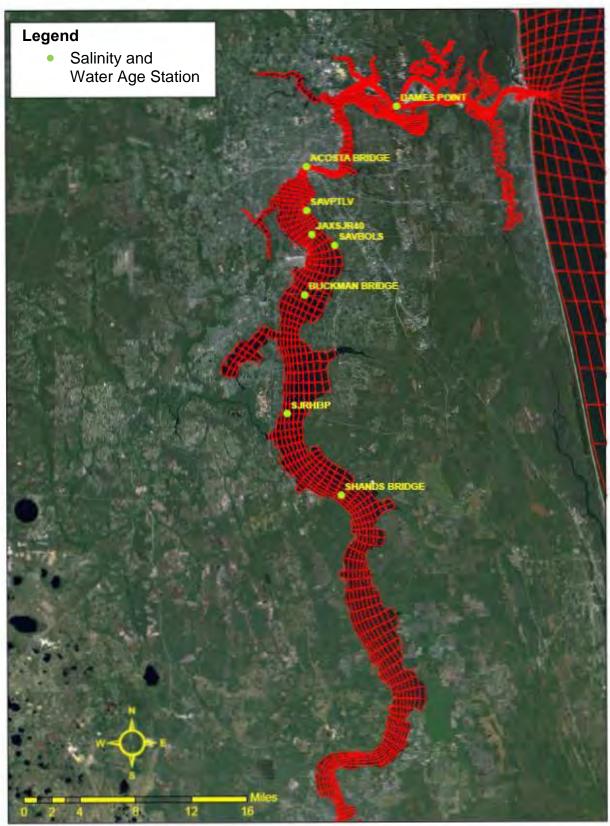


Figure 4.2 Locations of Salinity and Water Age Stations on USACE Model Mesh

Figure 4.3 to Figure 4.6 show seasonal plan views of top and bottom layers salinities for the dry and wet seasons for baseline conditions. Dry season salinity in Figure 4.3 and Figure 4.4 reached 20 - 25 ppt at Acosta Bridge and 10 - 15 ppt at Buckman Bridge. Wet season salinity in Figure 4.5 and Figure 4.6 was less than 5 ppt at Acosta Bridge and Buckman Bridge. These figures show that the salt wedge moved upstream through the main stem of the river, Trout River, ICWW, and marsh areas depending on the flow balance between ocean tides and upstream flow. Low (weak) river flow during the dry season allowed the salt wedge to move upstream and high (strong) river flow during the wet season pushed back the salt wedge downstream. As expected, during both seasons, the bottom salinity was greater than the surface (top layer) salinity, as saltier and heavier water sunk to the bottom. Figure 4.3 and Figure 4.4 also shows the large volume of river water upstream of Acosta Bridge diluted the salty water that entered into the wide portion of the river.

Figure 4.7 and Figure 4.8 show the bed elevation, water level, and salinity along the river longitudinal profile from Mile 0 to Mile 50. Both figures show the tide started to go up the river. The river is deepest and narrowest at the bend upstream of Acosta Bridge (Mile 24). The fast moving river flow along this narrow and curved portion of the river likely keeps the river bed low on this part of the river. Further upstream where the river widens, the river bed elevates between the Acosta Bridge and the Buckman Bridge to form a natural sill.

Figure 4.7 and Figure 4.8 show seasonal river salinity variation within the water column — the salt wedge moved up the river during the dry season (Figure 4.7) with the bottom portion of the wedge moving ahead of the surface portion. During wet season, the high river flow pushed back the salt wedge about 25 mi downstream from where it was during dry season.

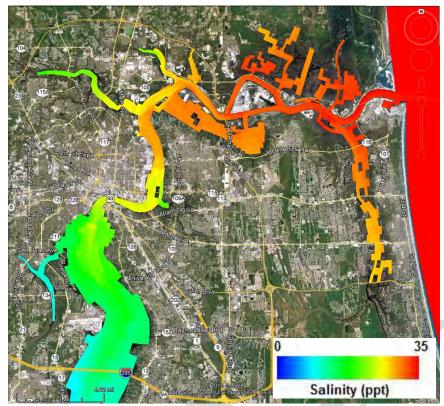


Figure 4.3 Modeled St. Johns River Salinity for USACE Baseline (Top Layer, May 6, 2001)

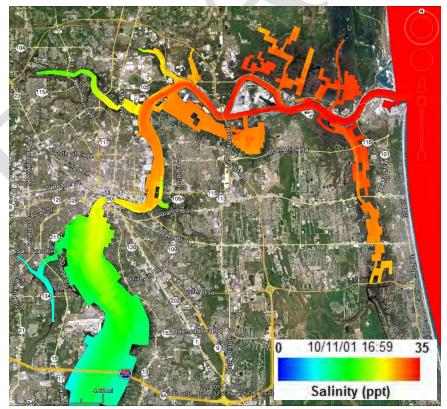


Figure 4.4 Modeled St. Johns River Salinity for USACE Baseline (Bottom Layer, May 6, 2001)

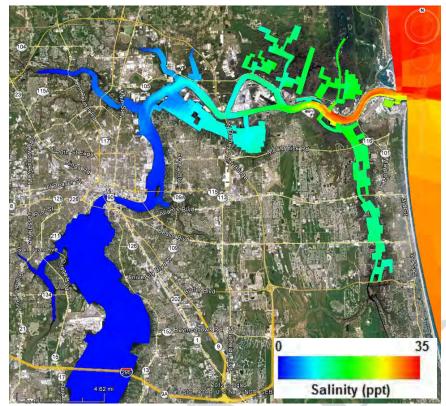


Figure 4.5 Modeled Salinity for USACE Baseline on Google Earth Image (Top Layer, Oct. 15, 2001)

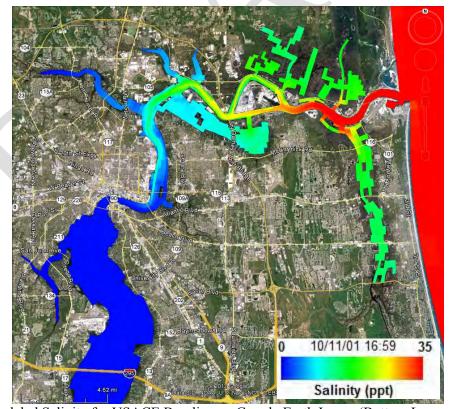


Figure 4.6 Modeled Salinity for USACE Baseline on Google Earth Image (Bottom Layer, Oct. 15, 2001)

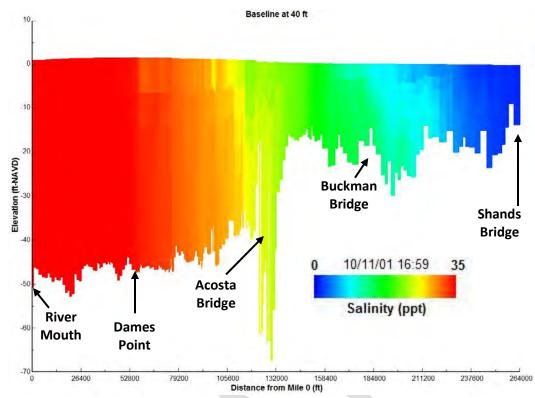


Figure 4.7 Modeled St. Johns River Salinity Longitudinal Profile for USACE Baseline (May 5, 2001)

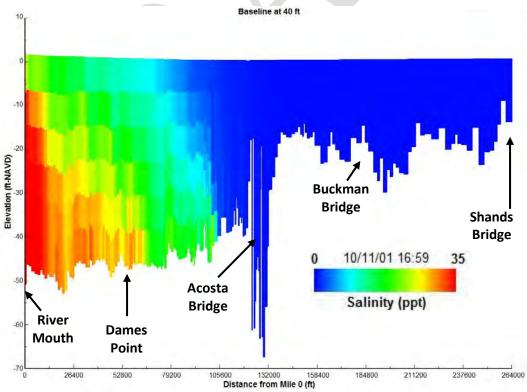


Figure 4.8 Modeled St. Johns River Salinity Longitudinal Profile for USACE Baseline (October 17, 2001)

4.3.1.3 Baseline Water Age

In this study, water age characterizes water circulation. Water age indicates the time a modeled water particle has resided within the USACE model domain. Low water age is associated with water that newly entered the model domain through the model's lateral inflows. High water age is associated with water that has travelled upstream and downstream in the river for a very long time. Thus, fast moving water will have low water age and stagnant water will have high water age. Comparisons of the modeled water age for the baseline and project alternatives provide the means to evaluate impact of the project on water circulation. Table 4.4 provides the percentage of the time the modeled water age at select locations was greater (older) than 30 to 210 days.

In Table 4.4, modeled water age generally increased downstream as the major water inflow was located upstream at Astor and net river flow was downstream. The top layer had lower water age than the bottom layer because upper layers had better mixing due to faster flows at upper layers and additional mixing due to wind stress. The second column of Table 4.4 shows water was older than 30 days at Dames Point to Buckman Bridge 100% of the time and 99% of the time at SJRHBP and Shands Bridge. The last column shows water is rarely (i.e., less than 7% of the time) older than 210 days at all the selected stations. Interestingly, ocean water reduced water age that was more than 180 days at Dames Point and Acosta Bridge.

Table 4.4 Percent of Time Model Results Exceeds Water Age for Baseline at 40 ft

Station / Lavor	Daily Water Age (Day) Greater Than										
Station / Layer	30	60	90	120	150	180	210				
Dames Point											
Top Layer	100.00%	98.72%	91.83%	75.59%	36.04%	13.41%	1.55%				
Bottom Layer	100.00%	100.00%	99.41%	84.35%	38.69%	13.32%	0.00%				
Acosta Bridge											
Top Layer	100.00%	95.39%	83.62%	63.87%	37.32%	18.07%	5.38%				
Bottom Layer	100.00%	96.35%	86.31%	68.25%	37.09%	16.70%	4.70%				
SAVPTLV											
Top Layer	100.00%	94.34%	80.93%	57.76%	37.32%	19.11%	6.07%				
Bottom Layer	100.00%	94.39%	81.52%	59.31%	37.27%	19.07%	5.93%				
JAXSJR40											
Top Layer	100.00%	93.07%	79.33%	54.20%	36.27%	18.57%	6.39%				
Bottom Layer	100.00%	93.20%	80.25%	57.85%	36.86%	18.57%	6.16%				
SAVBOLS											
Top Layer	100.00%	93.20%	78.06%	52.28%	35.77%	18.75%	6.34%				
Bottom Layer	100.00%	93.25%	78.15%	52.51%	36.13%	18.80%	6.30%				
Buckman Bridge											
Top Layer	100.00%	90.47%	73.36%	48.81%	32.48%	18.80%	5.66%				
Bottom Layer	100.00%	90.47%	73.91%	52.60%	34.31%	18.66%	6.39%				
SJRHBP											
Top Layer	99.18%	85.58%	59.81%	41.15%	24.13%	12.23%	0.73%				
Bottom Layer	99.18%	85.68%	60.17%	41.56%	24.82%	15.56%	1.78%				
Shands Bridge											
Top Layer	99.50%	84.58%	54.38%	36.72%	21.58%	9.31%	1.14%				
Bottom Layer	99.50%	84.58%	54.43%	36.82%	21.72%	10.04%	1.14%				

4.3.2 Project at 44 ft

4.3.2.1 Water Level

Comparisons of duration curves provide summaries of the changes in the water level regime resulting from project construction. Figure 4.9 to Figure 4.13 show comparisons of duration curves between Project at 44 ft and baseline scenarios. The figures show water level probability of non-exceedance at select locations in the study area — Bar Pilot, Long Branch, Main Street Bridge, Buckman Bridge, and Shands Bridge. Compared to the baseline scenario, model results show the Project at 44 ft elevated high tides and lowered low tides by approximately 0.1 ft (i.e, increased tide range by 0.2 ft) at Long Branch and Main Street Bridge. Model results do not show appreciable differences in water level duration curves at Bar Pilot, Buckman Bridge, and Shands Bridge. Based on these comparisons, the Project at 44 ft will not likely affect water levels upstream of Buckman Bridge.

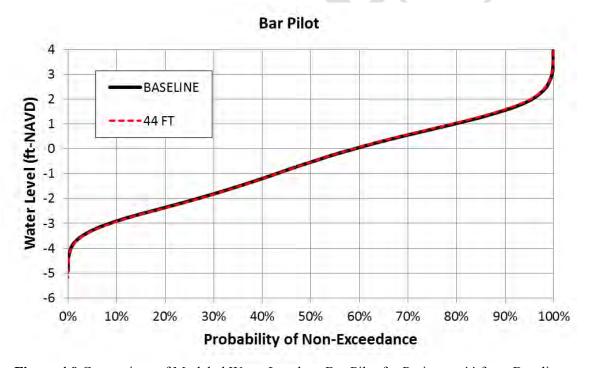


Figure 4.9 Comparison of Modeled Water Levels at Bar Pilot for Project at 44 ft vs. Baseline

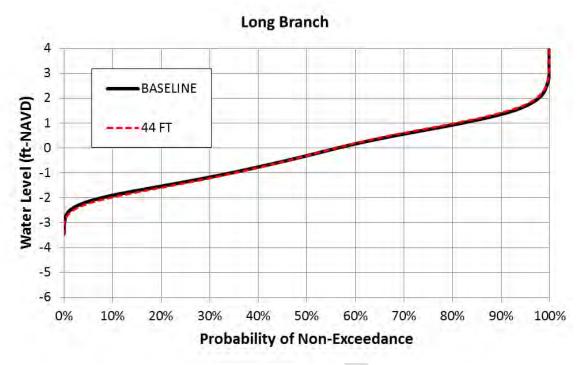


Figure 4.10 Comparison of Modeled Water Levels at Long Branch for Project at 44 ft vs. Baseline

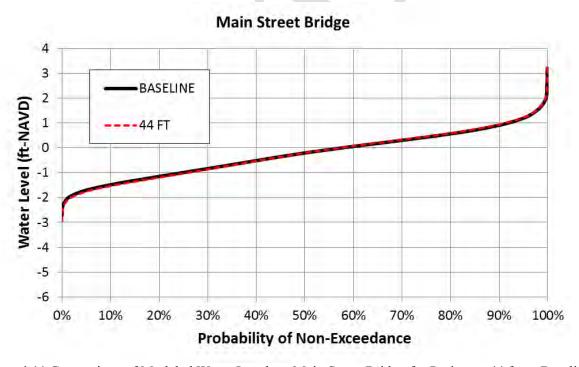


Figure 4.11 Comparison of Modeled Water Levels at Main Street Bridge for Project at 44 ft vs. Baseline

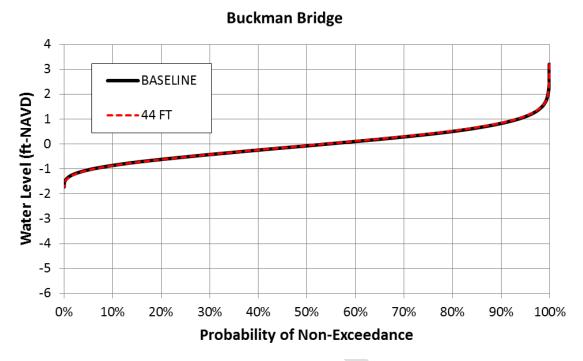


Figure 4.12 Comparison of Modeled Water Levels at Buckman Bridge for Project at 44 ft vs. Baseline

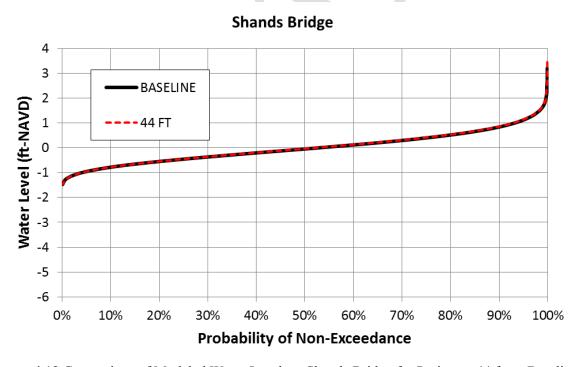


Figure 4.13 Comparison of Modeled Water Levels at Shands Bridge for Project at 44 ft vs. Baseline

4.3.2.2 Salinity

Figure 4.14 to Figure 4.17 show comparisons of salinity duration curves between Project at 44 ft and baseline scenarios. The figures show salinity probability of non-exceedance at select locations in the study area — Dames Point, Acosta Bridge, Buckman Bridge, and Shands Bridge. These comparisons summarize the salinity effect of the project along the river.

At Dames Point, model results (Figure 4.14) show salinity below 20.0 ppt (top), 29.1 ppt (bottom), and 25.1 ppt (depth-averaged) for 50% of the time. From baseline conditions, the top layer salinity increased by 0.3 part per thousand (ppt) for 50% of the time (i.e., only when the salinity was below 20 ppt) and that there were very small changes in bottom layer and depth-averaged salinity.

At Acosta Bridge, model results (Figure 4.15) show salinity below 9.5 ppt (top), 13.0 ppt (bottom), and 12.0 ppt (depth-averaged) for 50% of the time. From baseline conditions, the top layer, bottom-layer, and depth-averaged salinity increased by 0.4 ppt for 10% to 90% of the time (i.e., only when the salinity was between 2 to 20 ppt).

At Buckman Bridge, model results (Figure 4.16) show salinity below 1.7 ppt (top), 2.2 ppt (bottom), and 2.1 ppt (depth-averaged) for 50% of the time. From baseline conditions, the top layer, bottom-layer, and depth-averaged salinity increased by 0.3 ppt for 50% of the time (i.e., only when the salinity was above 2 ppt).

At Shands Bridge, model results (Figure 4.17) show low salinity stayed below 1.3 ppt and 0.6 ppt for 90% and 50% of the time. Figure 4.17 show the top layer, bottom-layer, and depth-averaged salinity at Shands Bridge will likely not change after construction of Project at 44 ft. Based on these comparisons, the Project at 44 ft will not likely affect salinity upstream of Shands Bridge.

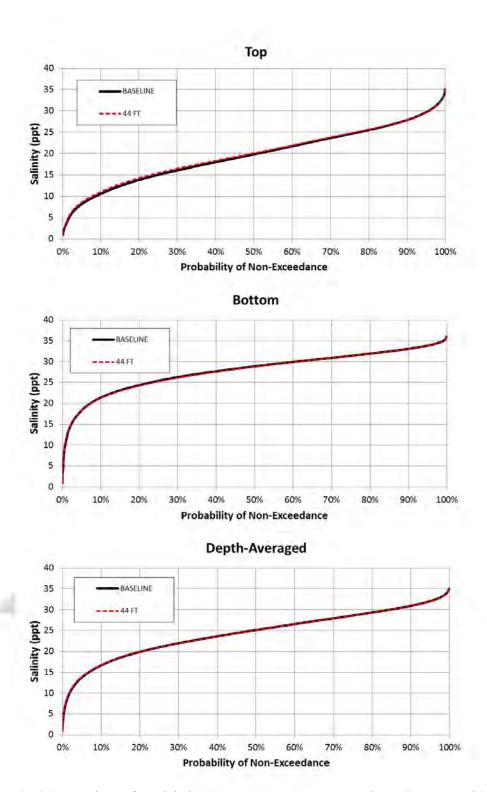


Figure 4.14 Comparison of Modeled Top Layer, Bottom Layer, and Depth-Averaged Salinity at Dames Point for Project at 44 ft vs. Baseline

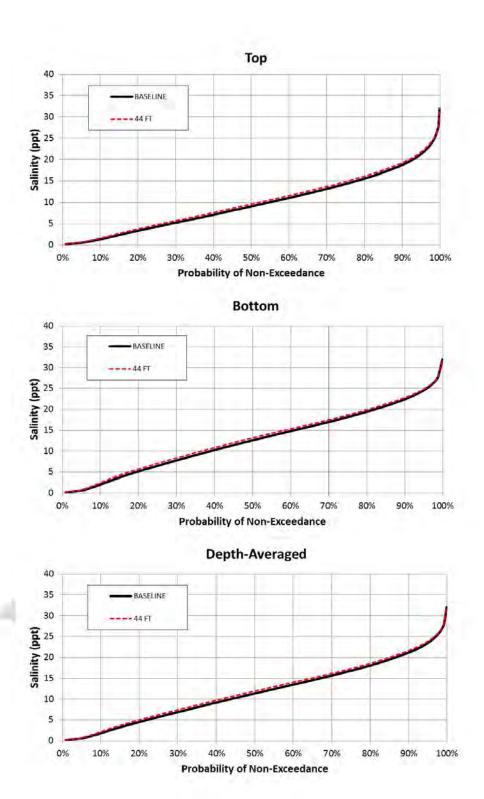


Figure 4.15 Comparison of Modeled Top Layer, Bottom Layer, and Depth-Averaged Salinity at Acosta Bridge for Project at 44 ft vs. Baseline

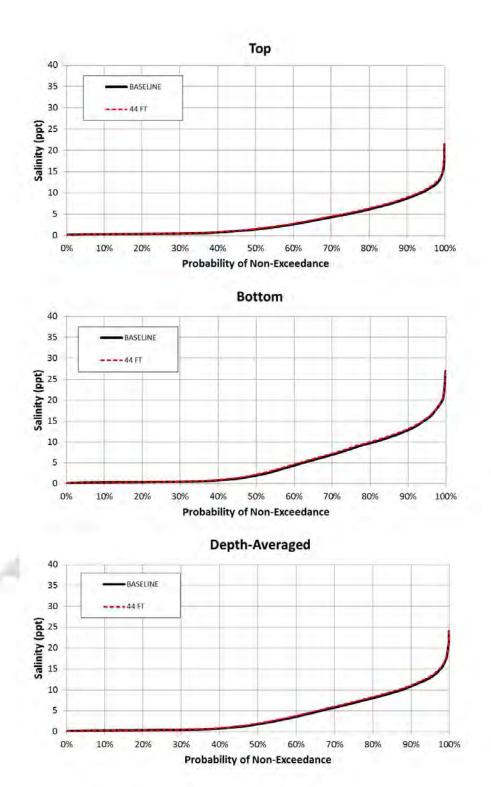


Figure 4.16 Comparison of Modeled Top Layer, Bottom Layer, and Depth-Averaged Salinity at Buckman Bridge for Project at 44 ft vs. Baseline

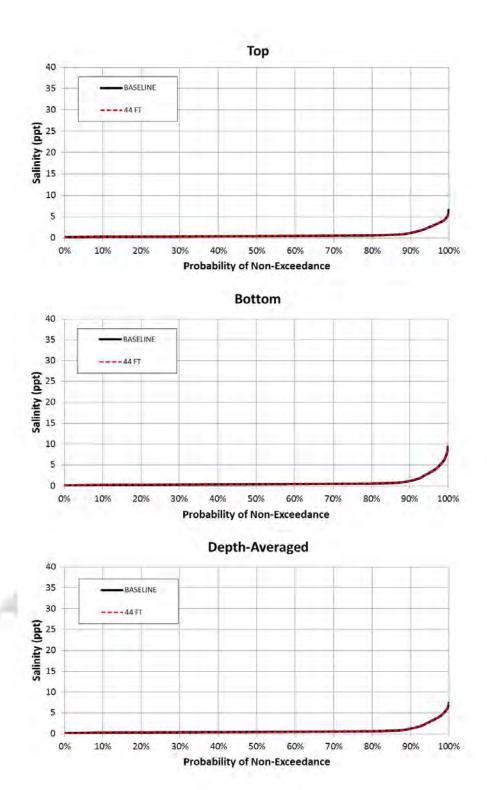


Figure 4.17 Comparison of Modeled Top Layer, Bottom Layer, and Depth-Averaged Salinity at Shands Bridge for Project at 44 ft vs. Baseline

4.3.2.3 Water Age

Comparisons of the modeled water age provide the means to evaluate project impacts on water circulation. Compared to baseline conditions, Table 4.5 indicates less than $\pm 1\%$ changes in probability (equivalent to less than 4 days per year) that the modeled water age is older than 30 to 210 days. More importantly, as negative changes occur at higher water ages (e.g., older than 150 days) and positive changes occur at lower ages (e.g., younger than 150 days), the project generally reduces water ages or slightly improves circulation along the river. Based on these water age comparisons, the Project at 44 ft will likely not significantly reduce water circulation in the study area.

Table 4.5 Changes in Percent of Time Model Results Exceeds Water Age for Project at 44 ft

	Daily Water Age (Day) Greater Than									
Station / Layer	30	60	90	120	150	180	210			
Dames Point										
Top Layer	0.0%	0.1%	0.2%	0.3%	-0.5%	0.1%	-0.4%			
Bottom Layer	0.0%	0.0%	0.0%	-0.6%	0.0%	-0.8%	0.0%			
Acosta Bridge										
Top Layer	0.0%	0.2%	0.3%	0.7%	-0.1%	-0.1%	0.0%			
Bottom Layer	0.0%	0.1%	0.3%	0.7%	-0.6%	-0.1%	-0.9%			
SAVPTLV										
Top Layer	0.0%	0.1%	0.3%	0.6%	-0.1%	-0.1%	-0.1%			
Bottom Layer	0.0%	0.1%	0.2%	0.6%	0.0%	-0.1%	0.0%			
JAXSJR40										
Top Layer	0.0%	0.1%	0.2%	0.8%	0.1%	0.0%	0.0%			
Bottom Layer	0.0%	0.2%	0.3%	0.9%	-0.3%	-0.1%	-0.3%			
SAVBOLS										
Top Layer	0.0%	0.0%	0.1%	0.4%	0.2%	-0.1%	-0.1%			
Bottom Layer	0.0%	0.0%	0.1%	0.4%	0.2%	0.0%	-0.1%			
Buckman Bridge										
Top Layer	0.0%	0.1%	0.1%	0.2%	0.1%	-0.1%	-0.1%			
Bottom Layer	0.0%	0.1%	0.3%	0.3%	0.0%	0.0%	0.0%			
SJRHBP										
Top Layer	0.0%	0.2%	0.4%	0.2%	0.2%	0.4%	0.0%			
Bottom Layer	0.0%	0.2%	0.3%	0.2%	0.1%	0.4%	0.0%			
Shands Bridge										
Top Layer	0.0%	0.1%	0.1%	0.4%	0.1%	-0.1%	0.0%			
Bottom Layer	0.0%	0.1%	0.0%	0.3%	0.1%	0.0%	0.0%			

4.3.3 Project at 46 ft

4.3.3.1 Water Level

Figure 4.18 to Figure 4.22 show comparisons of duration curves between Project at 46 ft and baseline scenarios. The figures show water level probability of non-exceedance at select locations in the study area — Bar Pilot, Long Branch, Main Street Bridge, Buckman Bridge, and Shands Bridge. Compared to the baseline scenario, model results show the Project at 46 ft elevated high tides and lowered low tides by approximately 0.2 ft (i.e, increased tide range by 0.40 ft) at Long Branch and Main Street Bridge. Model results do not show appreciable differences in water level duration curves at Bar Pilot, Buckman Bridge, and Shands Bridge. Based on these comparisons, the Project at 46 ft will not likely affect water levels upstream of Buckman Bridge.

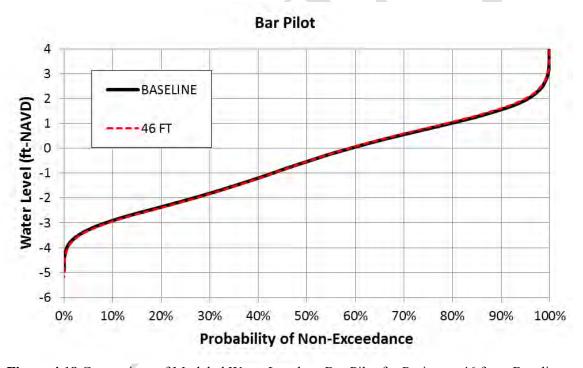


Figure 4.18 Comparison of Modeled Water Levels at Bar Pilot for Project at 46 ft vs. Baseline

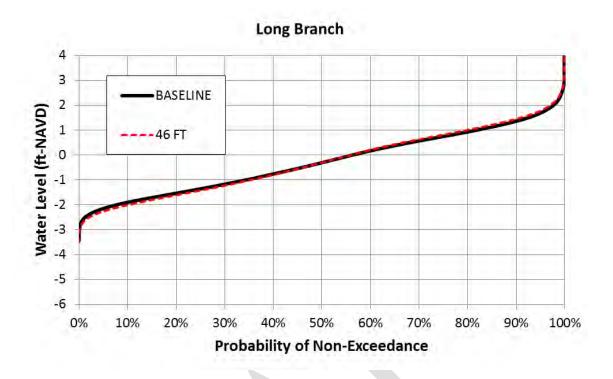


Figure 4.19 Comparison of Modeled Water Levels at Long Branch for Project at 46 ft vs. Baseline

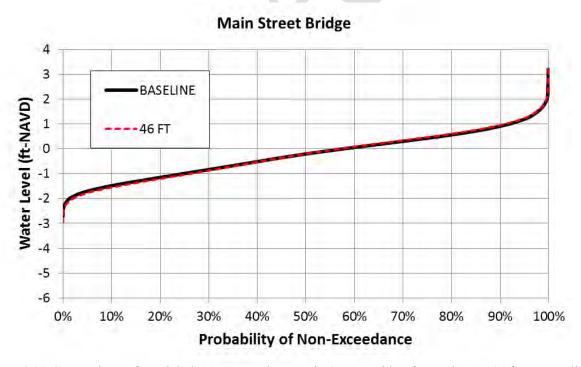


Figure 4.20 Comparison of Modeled Water Levels at Main Street Bridge for Project at 46 ft vs. Baseline

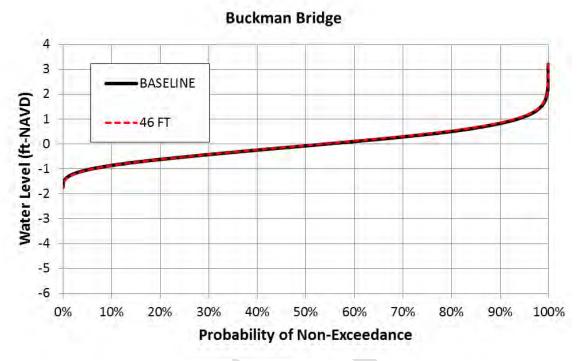


Figure 4.21 Comparison of Modeled Water Levels at Buckman Bridge for Project at 46 ft vs. Baseline

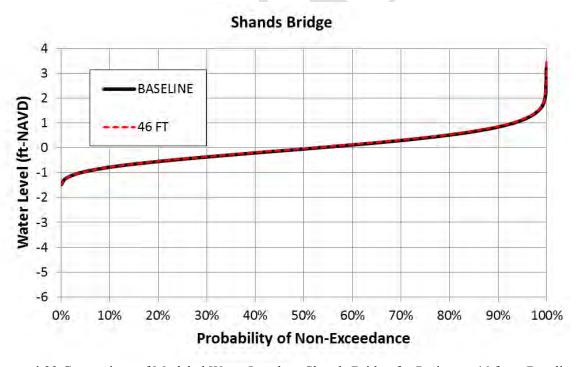


Figure 4.22 Comparison of Modeled Water Levels at Shands Bridge for Project at 46 ft vs. Baseline

4.3.3.2 Salinity

Figure 4.23 to Figure 4.26 show comparisons of salinity duration curves between Project at 46 ft and baseline scenarios. The figures show salinity probability of non-exceedance at select locations in the study area — Dames Point, Acosta Bridge, Buckman Bridge, and Shands Bridge. These comparisons summarize the salinity effect of the project along the river.

At Dames Point, model results (Figure 4.23) show salinity below 20.2 ppt (top), 29.2 ppt (bottom), and 25.2 ppt (depth-averaged) for 50% of the time. From baseline conditions, the top layer salinity increased by 0.5 ppt for 50% of the time (i.e., only when the salinity was below 20 ppt) and that very small changes occurred in bottom layer and depth-averaged salinity.

At Acosta Bridge, model results (Figure 4.24) show salinity below 9.7 ppt (top), 13.2 ppt (bottom), and 12.1 ppt (depth-averaged) for 50% of the time. From baseline conditions, the top layer, bottom-layer, and depth-averaged salinity increased by 0.7 ppt for 10% to 90% of the time (i.e., only when the salinity was between 2 to 20 ppt).

At Buckman Bridge, model results (Figure 4.25) show salinity below 1.8 ppt (top), 2.4 ppt (bottom), and 2.2 ppt (depth-averaged) for 50% of the time. From baseline conditions, the top layer, bottom-layer, and depth-averaged salinity increased by 0.4 ppt for 50% of the time (i.e., only when the salinity was above 2 ppt).

At Shands Bridge, model results (Figure 4.26) show low salinity stayed below 1.3 ppt and 0.6 ppt for 90% and 50% of the time. Figure 4.26 show the top layer, bottom-layer, and depth-averaged salinity at Shands Bridge will likely not change after construction of Project at 46 ft. Based on these comparisons, the Project at 46 ft will not likely affect salinity upstream of Shands Bridge.

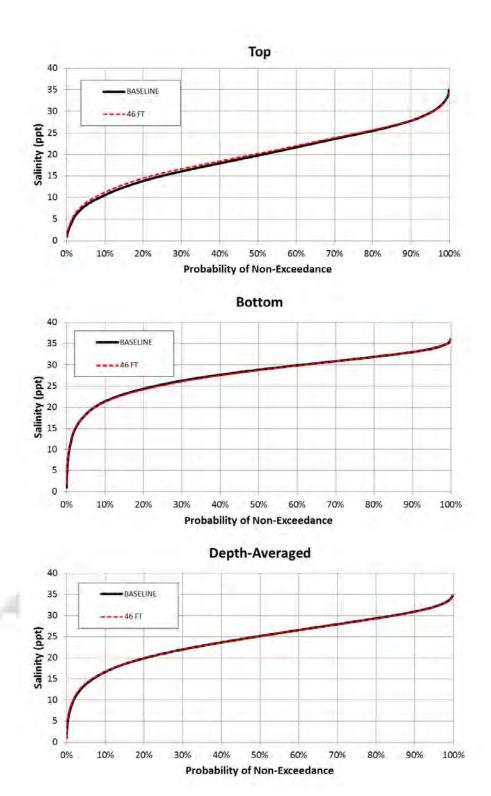


Figure 4.23 Comparison of Modeled Top Layer, Bottom Layer, and Depth-Averaged Salinity at Dames Point for Project at 46 ft vs. Baseline

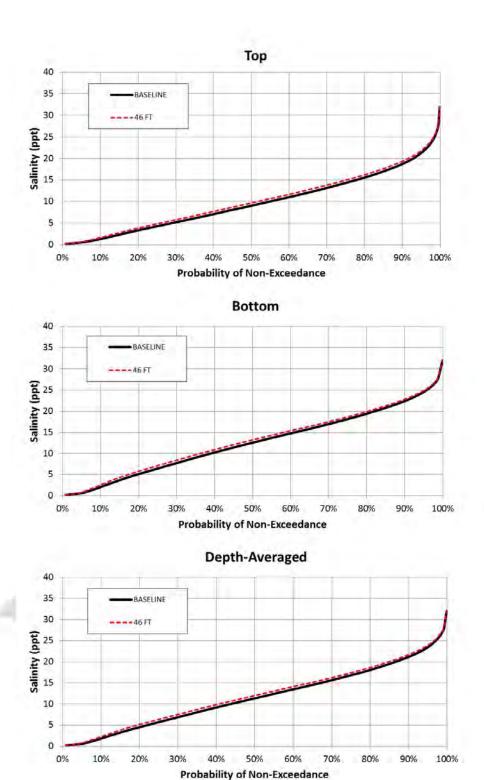


Figure 4.24 Comparison of Modeled Top Layer, Bottom Layer, and Depth-Averaged Salinity at Acosta Bridge for Project at 46 ft vs. Baseline

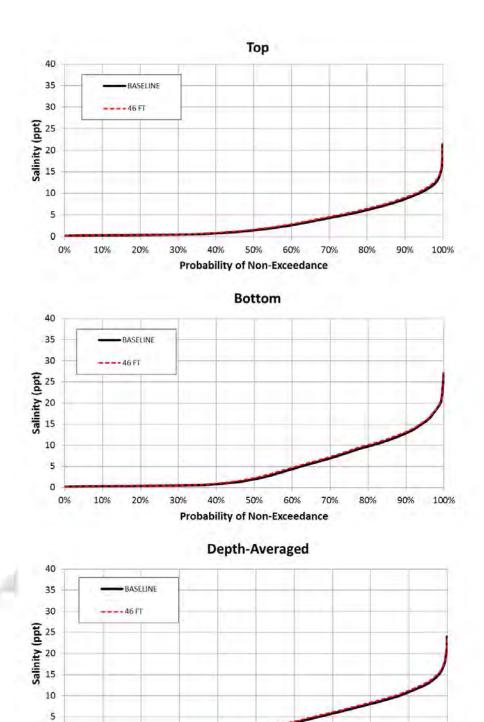


Figure 4.25 Comparison of Modeled Top Layer, Bottom Layer, and Depth-Averaged Salinity at Buckman Bridge for Project at 46 ft vs. Baseline

50%

Probability of Non-Exceedance

60%

70%

80%

100%

40%

0 -

10%

20%

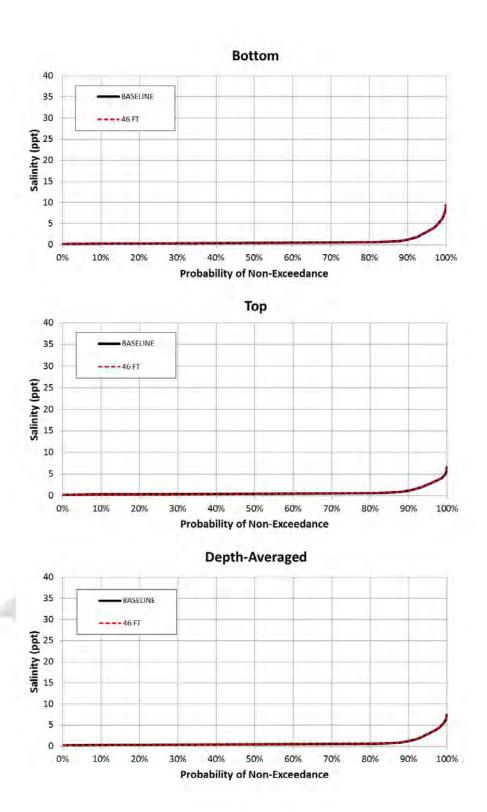


Figure 4.26 Comparison of Modeled Top Layer, Bottom Layer, and Depth-Averaged Salinity at Shands Bridge for Project at 46 ft vs. Baseline

4.3.3.3 Water Age

Comparisons of the modeled water age provide the means to evaluate project impacts on water circulation. Compared to baseline conditions, Table 4.6 indicates less than $\pm 1.3\%$ changes in probability (equivalent to less than 5 days per year) that the modeled water age is older than 30 to 210 days. More importantly, as negative changes occur at higher water ages (e.g., older than 150 days) and positive changes occur at lower ages (e.g., younger than 150 days), the project generally reduces water ages or slightly improves circulation along the river. Based on these water age comparisons, the Project at 46 ft will likely not significantly reduce water circulation in the study area.

Table 4.6 Changes in Percent of Time Model Results Exceeds Water Age for Project at 46 ft

Station / Layer	Daily Water Age (Day) Greater Than							
	30	60	90	120	150	180	210	
Dames Point								
Top Layer	0.0%	0.1%	0.5%	0.3%	-0.9%	0.5%	0.0%	
Bottom Layer	0.0%	0.0%	0.0%	-0.6%	0.3%	-0.3%	0.0%	
Acosta Bridge								
Top Layer	0.0%	0.2%	0.4%	0.6%	0.1%	0.1%	-0.1%	
Bottom Layer	0.0%	0.2%	0.5%	0.7%	-0.4%	0.5%	-1.0%	
SAVPTLV								
Top Layer	0.0%	0.1%	0.4%	0.9%	0.0%	0.0%	0.0%	
Bottom Layer	0.0%	0.1%	0.3%	0.8%	0.2%	0.0%	-0.1%	
JAXSJR40								
Top Layer	0.0%	0.1%	0.2%	0.8%	0.1%	-0.1%	-0.1%	
Bottom Layer	0.0%	0.3%	0.5%	1.2%	0.0%	-0.1%	-0.1%	
SAVBOLS								
Top Layer	0.0%	0.1%	0.4%	0.5%	0.4%	-0.1%	0.0%	
Bottom Layer	0.0%	0.0%	0.4%	0.5%	0.3%	-0.1%	-0.1%	
Buckman Bridge								
Top Layer	0.0%	0.1%	0.2%	0.3%	0.3%	-0.2%	0.0%	
Bottom Layer	0.0%	0.1%	0.5%	0.4%	0.2%	-0.1%	0.0%	
SJRHBP								
Top Layer	0.0%	0.2%	0.5%	0.2%	0.2%	0.3%	0.0%	
Bottom Layer	0.0%	0.1%	0.4%	0.2%	0.1%	0.3%	-0.1%	
Shands Bridge								
Top Layer	0.0%	0.1%	0.1%	0.5%	0.3%	0.0%	0.0%	
Bottom Layer	0.0%	0.1%	0.1%	0.5%	0.2%	0.0%	0.0%	

4.3.4 Project at 50 ft

4.3.4.1 Water Level

Figure 4.27 to Figure 4.31 show comparisons of duration curves between Project at 50 ft and baseline scenarios. The figures show water level probability of non-exceedance at select locations in the study area — Bar Pilot, Long Branch, Main Street Bridge, Buckman Bridge, and Shands Bridge. Compared to the baseline scenario, model results show the Project at 50 ft elevated high tides and lowered low tides by approximately 0.1 ft (i.e, increased tide range by 0.2 ft) at Bar Pilot, by approximately 0.2 ft (i.e, increased tide range by 0.4 ft) at Long Branch, and by approximately 0.1 ft (i.e, increased tide range by 0.2 ft) at Main Street Bridge. Model results do not show appreciable differences in water level duration curves at Buckman Bridge and Shands Bridge. Based on these comparisons, the Project at 50 ft will not likely affect water levels upstream of Buckman Bridge.

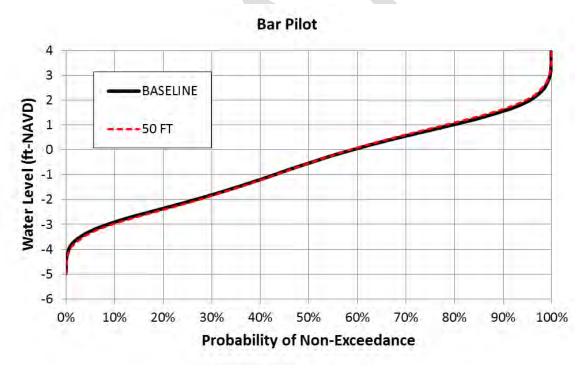


Figure 4.27 Comparison of Modeled Water Levels at Bar Pilot for Project at 50 ft vs. Baseline

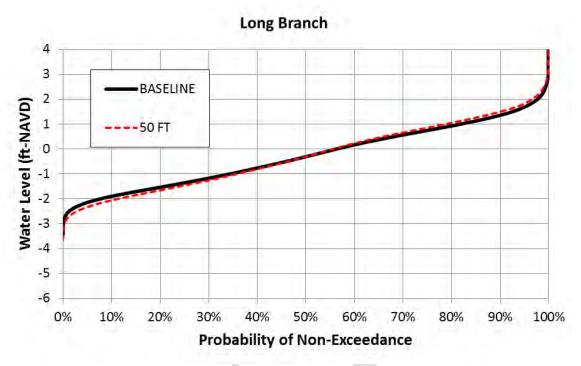


Figure 4.28 Comparison of Modeled Water Levels at Long Branch for Project at 50 ft vs. Baseline

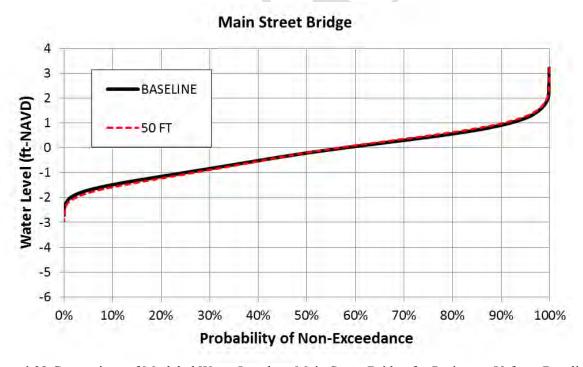


Figure 4.29 Comparison of Modeled Water Levels at Main Street Bridge for Project at 50 ft vs. Baseline

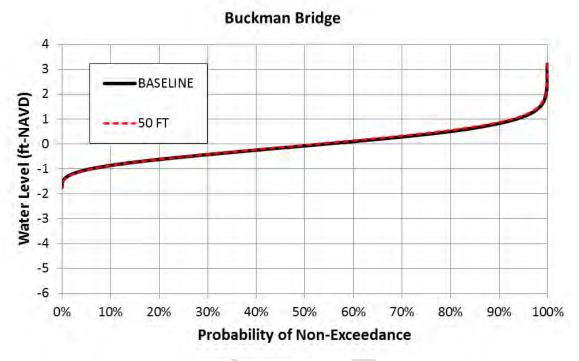


Figure 4.30 Comparison of Modeled Water Levels at Buckman Bridge for Project at 50 ft vs. Baseline

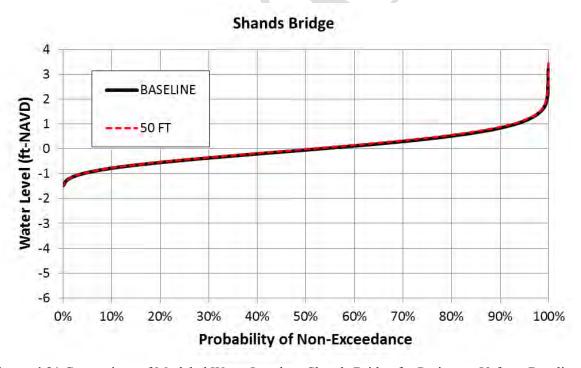


Figure 4.31 Comparison of Modeled Water Levels at Shands Bridge for Project at 50 ft vs. Baseline

4.3.4.2 Salinity

Figure 4.32 to Figure 4.35 show comparisons of salinity duration curves between Project at 50 ft and baseline scenarios. The figures show salinity probability of non-exceedance at select locations in the study area — Dames Point, Acosta Bridge, Buckman Bridge, and Shands Bridge. These comparisons summarize the salinity effect of the project along the river.

At Dames Point, model results (Figure 4.32) show salinity below 20.4 ppt (top), 28.7 ppt (bottom), and 25.2 ppt (depth-averaged) for 50% of the time. Notably, as the station lies at the edge of the navigation channel, the slight decrease in the bottom salinity from baseline conditions was likely caused by more saline water shifting to the deeper navigation channel. From baseline conditions, the top layer salinity increased by 1.0 ppt for 50% of the time (i.e., only when the salinity was below 20 ppt), the bottom layer decreased by 0.3 ppt (i.e., only when the salinity was below 32 ppt), and that very small changes occurred in depth-averaged salinity.

At Acosta Bridge, model results (Figure 4.33) show salinity below 10.0 ppt (top), 13.5 ppt (bottom), and 12.2 ppt (depth-averaged) for 50% of the time. From baseline conditions, the top layer, bottom-layer, and depth-averaged salinity increased by 0.8 ppt for 10% to 90% of the time (i.e., only when the salinity was between 2 to 20 ppt).

At Buckman Bridge, model results (Figure 4.34) show salinity below 1.9 ppt (top), 2.6 ppt (bottom), and 2.5 ppt (depth-averaged) for 50% of the time. From baseline conditions, the top layer, bottom-layer, and depth-averaged salinity increased by 0.5 ppt for 50% of the time (i.e., only when the salinity was above 2 ppt).

At Shands Bridge, model results (Figure 4.35) show low salinity stayed below 1.3 ppt and 0.6 ppt for 90% and 50% of the time. Figure 4.35 show the top layer, bottom-layer, and depth-averaged salinity at Shands Bridge will likely not change after construction of Project at 50 ft. Based on these comparisons, the Project at 50 ft will not likely affect salinity upstream of Shands Bridge.

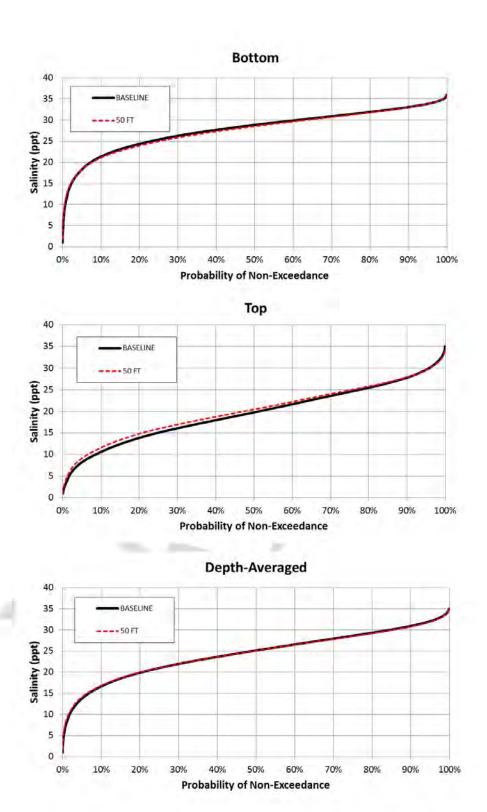


Figure 4.32 Comparison of Modeled Top Layer, Bottom Layer, and Depth-Averaged Salinity at Dames Point for Project at 50 ft vs. Baseline

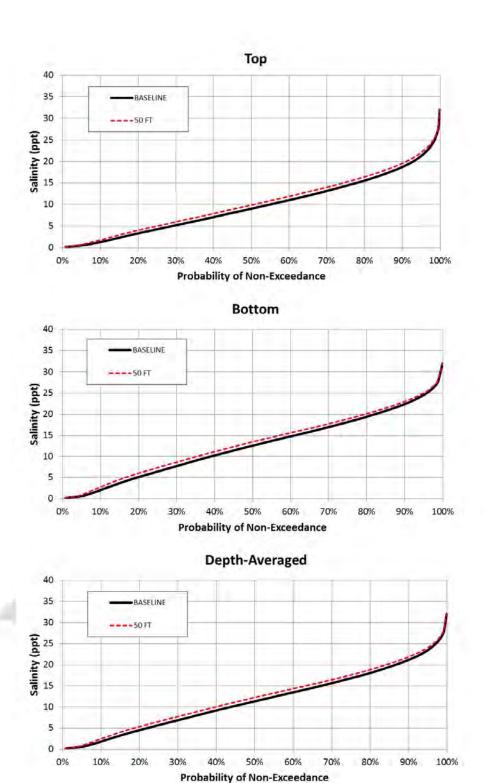
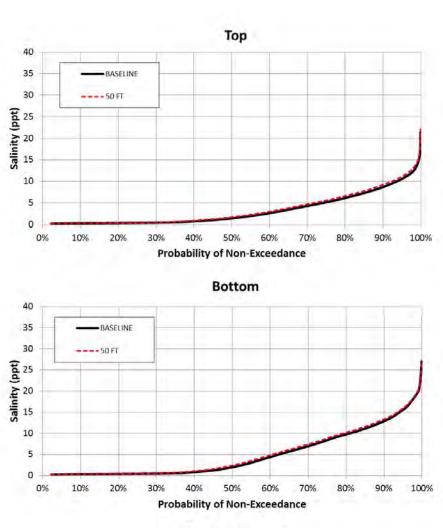


Figure 4.33 Comparison of Modeled Top Layer, Bottom Layer, and Depth-Averaged Salinity at Acosta Bridge for Project at 50 ft vs. Baseline



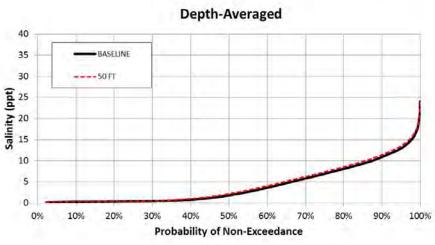


Figure 4.34 Comparison of Modeled Top Layer, Bottom Layer, and Depth-Averaged Salinity at Buckman Bridge for Project at 50 ft vs. Baseline

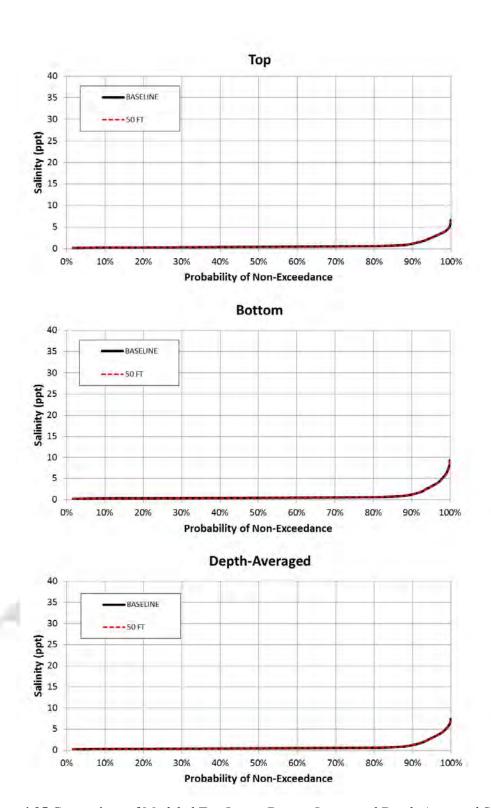


Figure 4.35 Comparison of Modeled Top Layer, Bottom Layer, and Depth-Averaged Salinity at Shands Bridge for Project at 50 ft vs. Baseline

4.3.4.3 Water Age

Comparisons of the modeled water age provide the means to evaluate impact of the project on water circulation. Compared to baseline conditions, Table 4.7 indicates less than $\pm 2.0\%$ changes in probability (equivalent to less than 7 days per year) that the modeled water age is older than 30 to 210 days. As the changes indicate mostly increases in water age, the project slightly impedes downstream river flow as the project allows more ocean water to flow upstream. However, given the change is less than $\pm 2\%$, the Project at 50 ft will likely not significantly reduce water circulation in the study area.

Table 4.7 Changes in Percent of Time Model Results Exceeds Water Age for Project at 50 ft

Station / Layer	Daily Water Age (Day) Greater Than								
	30	60	90	120	150	180	210		
Dames Point									
Top Layer	0.0%	0.2%	0.5%	0.6%	1.1%	0.8%	0.5%		
Bottom Layer	0.0%	0.0%	0.0%	-0.9%	1.4%	-0.4%	0.3%		
Acosta Bridge									
Top Layer	0.0%	0.4%	0.5%	1.1%	0.6%	0.5%	0.5%		
Bottom Layer	0.0%	0.5%	0.7%	1.2%	0.5%	0.9%	0.2%		
SAVPTLV									
Top Layer	0.0%	0.2%	0.7%	1.7%	0.9%	0.5%	0.5%		
Bottom Layer	0.0%	0.2%	0.5%	1.5%	0.9%	0.4%	0.6%		
JAXSJR40									
Top Layer	0.0%	0.5%	0.5%	1.7%	0.9%	0.5%	0.2%		
Bottom Layer	0.0%	0.5%	0.6%	1.9%	0.7%	0.5%	0.3%		
SAVBOLS									
Top Layer	0.0%	0.1%	0.9%	0.9%	1.4%	0.8%	1.0%		
Bottom Layer	0.0%	0.1%	0.8%	1.3%	1.0%	0.9%	1.0%		
Buckman Bridge									
Top Layer	0.0%	0.5%	0.5%	0.3%	1.2%	0.2%	0.6%		
Bottom Layer	0.0%	0.5%	0.7%	0.6%	1.0%	0.2%	0.5%		
SJRHBP									
Top Layer	0.0%	0.2%	1.3%	0.6%	0.4%	1.2%	0.3%		
Bottom Layer	0.0%	0.2%	1.3%	0.6%	0.5%	1.0%	0.2%		
Shands Bridge									
Top Layer	0.0%	0.2%	0.6%	0.9%	1.0%	0.6%	0.1%		
Bottom Layer	0.0%	0.2%	0.6%	0.8%	1.0%	0.3%	0.1%		

4.4 2068 Scenarios

The 2068 scenarios represent conditions 50 years after project completion. The USACE describes these future scenarios as having similar bathymetric conditions as the 2018 scenarios and include the Mile Point and Mayport deepening projects. However, the future scenarios include an offshore 0.39 ft of sea level rise (applied at the ocean boundary) and an upstream river water withdrawal of 155 million gallons per day (MGD) applied at the upstream boundary of the model. Future scenarios model simulations consist of 1995 – 2001 model inputs with navigation channel bathymetry set at 40 ft (baseline or without project), 44 ft, 46 ft, and 50 ft below MLLW. The paragraphs below describe the model results for these scenarios and comparisons with the 2068 baseline scenario provide the means to evaluate the impact of the various project dredging depths 50 years after completion of the Jacksonville Harbor Deepening Project. Appendix C provides more detailed scenario statistics (e.g., probability salinity was below select threshold values or water age was older than specific number of days) for all six layers of the model.

4.4.1 Future Baseline at 40 ft (No Project after 50 Years)

4.4.1.1 Baseline Water Level

Duration curves of modeled future baseline water levels provide a summary of the "no project" water level regime at select locations along the river. The 10, 50, and 90 precentile of the duration curves provided estimates of low, median, and high tide levels. Table 4.8 provides estimates of the future baseline low, median, and high tide levels at Bar Pilot, Long Branch, Main Street Bridge, Buckman Bridge, and Shands Bridge. As expected, because of the additional 0.39 ft sea level rise, the low, median, and high tide levels in Table 4.8 are approximately 0.4 ft higher than the 2018 baseline tide levels (Table 4.8).

Table 4.8 Future Baseline Low Tide, Median Tide, and High Tide Levels

Station	Water Level (ft NAVD) at Non-Exceedance Percentage							
	10 % (Low Tide)	50% (Median Tide)	90% (High Tide)					
Bar Pilot	-2.6	-0.2	2.0					
Long Branch	-1.6	0.0	1.8					
Main Street Bridge	-1.2	0.2	1.3					
Buckman Bridge	-0.5	0.3	1.2					
Shands Bridge	-0.4	0.4	1.2					

4.4.1.2 Baseline Salinity

At Dames Point, model results show baseline salinity averaged 24.6 ppt and was below 20.0 ppt (top), 29.5 ppt (bottom), and 25.5 ppt (depth-averaged) for 50% of the time. At Acosta Bridge, model results show salinity averaged 11.8 ppt and was below 9.5 ppt (top), 13.0 ppt (bottom), and 11.7 ppt (depth-averaged) for 50% of the time. At Buckman Bridge, model results show salinity averaged 4.4 ppt and was below 2.0 ppt (top), 2.5 ppt (bottom), and 2.4 ppt (depth-averaged) for 50% of the time. At Shands Bridge, model results show salinity averaged 0.8 ppt and stayed below 0.6 ppt and 1.8 ppt for 50% and 90% of the time. In comparison with the 2018 baseline scenario, the 0.39 ft sea level rise and 155 MGD river water withdrawal elevated the modeled salinity by about 0.5 ppt from Dames Point to Buckman Bridge and by 0.1 ppt at Shands Bridge.

4.4.1.3 Baseline Water Age

Comparisons of the modeled water age for the future baseline and future project alternatives provide the means to evaluate impact of the project on future water circulation. Table 4.9 provides the percentage of the time the modeled future water age at select locations was greater (older) than 30 to 210 days. In Table 4.9, modeled water age generally increased downstream and the top layer had lower water age than the bottom layer. The second column of Table 4.9 shows water was older than 30 days at Dames Point to Buckman Bridge 100% of the time and 99% of the time at SJRHBP and Shands Bridge. The last column shows water is older than 210 days for more than 10% of the time at SAVPTLV, JAXSJR40, SAVBOLS, and Buckman Bridge. In comparison with the 2018 baseline water ages (Table 4.4), the water withdrawal and sea level rise generally increases water age. This is consistent with ocean tide impeding the natural downstream flow of the river water. Appendix C provides more detailed statistics (probability water age was older than select number of days) for all six layers of the model.

Table 4.9 Percent of Time Model Results Exceeds Water Age for Future Baseline at 40 ft

Station / Layer	Daily Water Age (Day) Greater Than							
	30	60	90	120	150	180	210	
Dames Point								
Top Layer	100.0%	99.0%	92.9%	78.5%	43.0%	16.7%	4.7%	
Bottom Layer	100.0%	100.0%	99.6%	86.2%	45.2%	15.3%	0.9%	
Acosta Bridge								
Top Layer	100.0%	96.4%	86.0%	70.0%	44.4%	23.3%	8.3%	
Bottom Layer	100.0%	97.4%	88.9%	73.9%	45.0%	21.2%	7.4%	
SAVPTLV								
Top Layer	100.0%	95.6%	84.4%	66.2%	44.4%	25.8%	11.1%	
Bottom Layer	100.0%	95.7%	84.6%	67.1%	44.3%	25.2%	10.3%	
JAXSJR40								
Top Layer	100.0%	94.6%	83.1%	64.3%	43.6%	26.0%	12.0%	
Bottom Layer	100.0%	94.8%	83.9%	66.6%	44.0%	24.7%	10.6%	
SAVBOLS								
Top Layer	100.0%	94.8%	82.8%	62.4%	43.5%	26.3%	12.5%	
Bottom Layer	100.0%	94.8%	82.9%	62.8%	43.6%	26.1%	12.1%	
Buckman Bridge								
Top Layer	100.0%	92.8%	79.5%	55.2%	41.2%	25.3%	12.1%	
Bottom Layer	100.0%	92.8%	80.1%	60.6%	42.7%	24.9%	11.9%	
SJRHBP								
Top Layer	99.3%	87.2%	67.6%	45.8%	29.4%	19.0%	4.1%	
Bottom Layer	99.3%	87.3%	67.8%	46.4%	31.0%	20.1%	7.7%	
Shands Bridge								
Top Layer	99.9%	86.7%	62.5%	43.0%	26.6%	13.8%	3.3%	
Bottom Layer	99.9%	86.7%	62.5%	43.1%	26.9%	14.3%	4.1%	

4.4.2 Future Project at 44 ft

4.4.2.1 Water Level

Figure 4.36 to Figure 4.40 show comparisons of duration curves between future Project at 44 ft and baseline scenarios. The figures show water level probability of non-exceedance at select locations in the study area — Bar Pilot, Long Branch, Main Street Bridge, Buckman Bridge, and Shands Bridge. Compared to the future baseline scenario, model results show the future Project at 44 ft elevated high tides and lowered low tides by approximately 0.05 ft (i.e, increased tide range by 0.1 ft) at Long Branch and Main Street Bridge. Model results do not show appreciable differences in water level duration curves at Bar Pilot, Buckman Bridge, and Shands Bridge. Based on these comparisons, the future Project at 44 ft will not likely affect water levels upstream of Buckman Bridge. Also, the sea level rise and upstream river water withdrawal will likely reduce the project water level impacts by 50%.

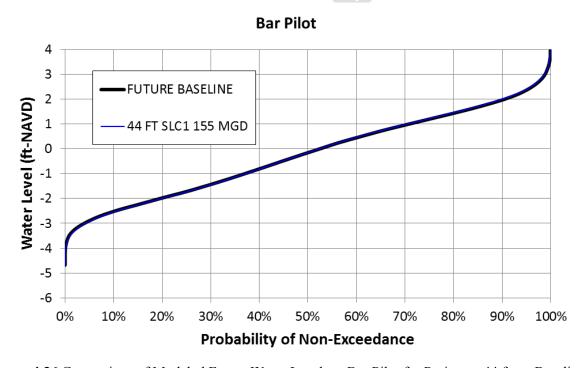


Figure 4.36 Comparison of Modeled Future Water Levels at Bar Pilot for Project at 44 ft vs. Baseline

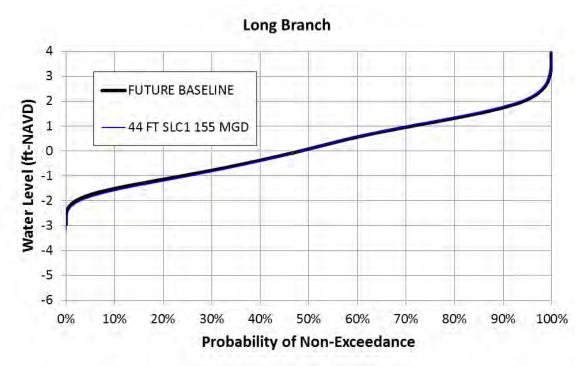


Figure 4.37 Comparison of Modeled Future Water Levels at Long Branch for Project at 44 ft vs. Baseline

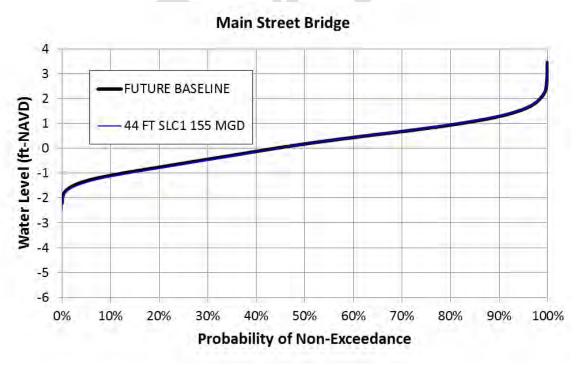


Figure 4.38 Comparison of Modeled Future Water Levels at Main Street Bridge for Project at 44 ft vs. Baseline

Buckman Bridge

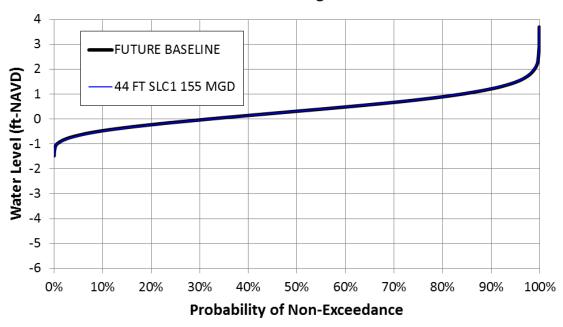


Figure 4.39 Comparison of Modeled Future Water Levels at Buckman Bridge for Project at 44 ft vs. Baseline

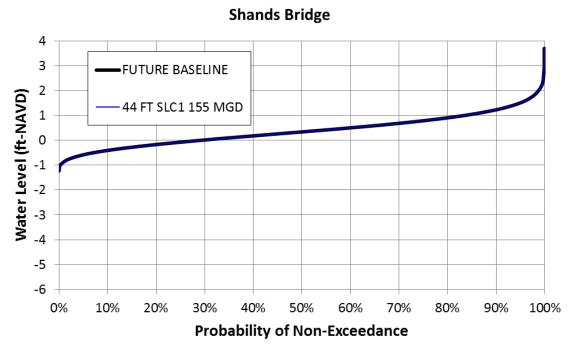


Figure 4.40 Comparison of Modeled Future Water Levels at Shands Bridge for Project at 44 ft vs. Baseline

4.4.2.2 Salinity

Figure 4.41 to Figure 4.44 show comparisons of salinity duration curves between future Project at 44 ft and future baseline scenarios. The figures show salinity probability of non-exceedance at select locations in the study area — Dames Point, Acosta Bridge, Buckman Bridge, and Shands Bridge. These comparisons summarize the future salinity effect of the project along the river.

At Dames Point, model results (Figure 4.41) show salinity below 22.5 ppt (top), 29.2 ppt (bottom), and 25.5 ppt (depth-averaged) for 50% of the time. From future baseline conditions, the top layer salinity increased by 0.7 part per thousand (ppt) for 50% of the time (i.e., only when the salinity was below 20 ppt) and very small changes ocurred in bottom layer and depth-averaged salinity.

At Acosta Bridge, model results (Figure 4.42) show salinity below 12.5 ppt (top), 14.0 ppt (bottom), and 12.7 ppt (depth-averaged) for 50% of the time. From future baseline conditions, the top layer, bottom-layer, and depth-averaged salinity increased by 0.8 ppt for 10% to 90% of the time (i.e., only when the salinity was between 2 to 22 ppt).

At Buckman Bridge, model results (Figure 4.43) show salinity below 2.0 ppt (top), 3.5 ppt (bottom), and 3.0 ppt (depth-averaged) for 50% of the time. From future baseline conditions, the top layer, bottom-layer, and depth-averaged salinity increased by 0.5 ppt for 50% of the time (i.e., only when the salinity was above 3 ppt).

At Shands Bridge, model results (Figure 4.44) show low salinity stayed below 0.6 ppt and 2.0 ppt for 50% and 90% of the time. Figure 4.44 shows the top layer, bottom-layer, and depth-averaged salinity at Shands Bridge will likely not change at future conditions after construction of Project at 44 ft. Based on these comparisons, the Project at 44 ft will not likely affect future salinity upstream of Shands Bridge.

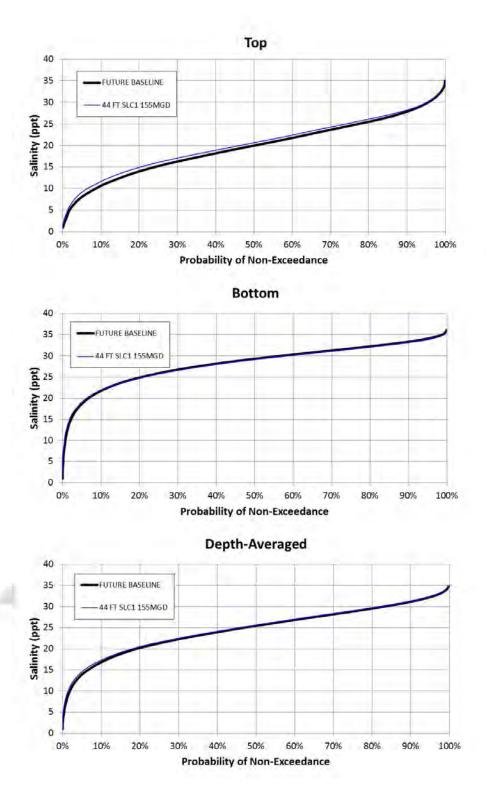


Figure 4.41 Comparison of Modeled Future Top Layer, Bottom Layer, and Depth-Averaged Salinity at Dames Point for Project at 44 ft vs. Baseline

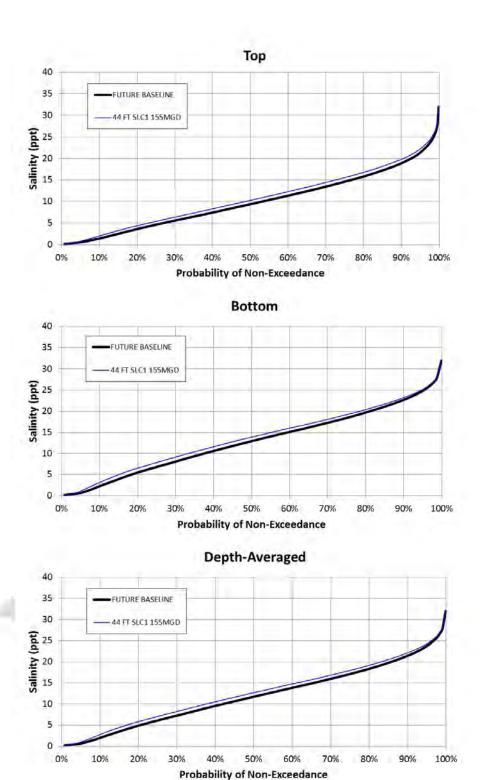


Figure 4.42 Comparison of Modeled Future Top Layer, Bottom Layer, and Depth-Averaged Salinity at Acosta Bridge for Project at 44 ft vs. Baseline

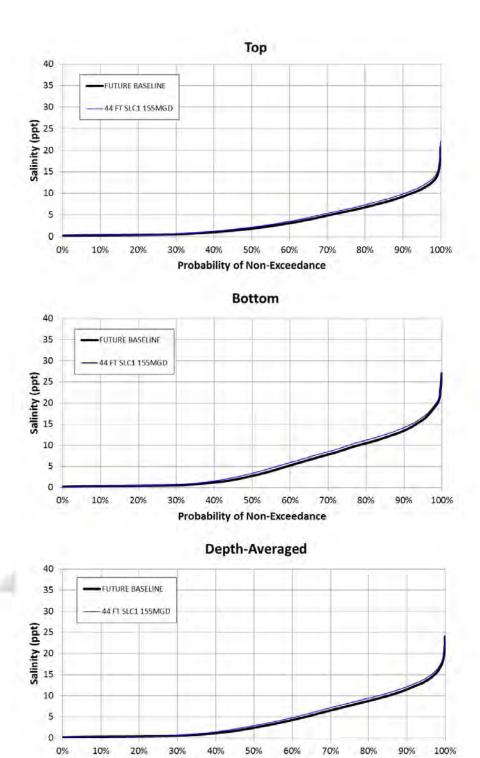


Figure 4.43 Comparison of Modeled Future Top Layer, Bottom Layer, and Depth-Averaged Salinity at Buckman Bridge for Project at 44 ft vs. Baseline

Probability of Non-Exceedance

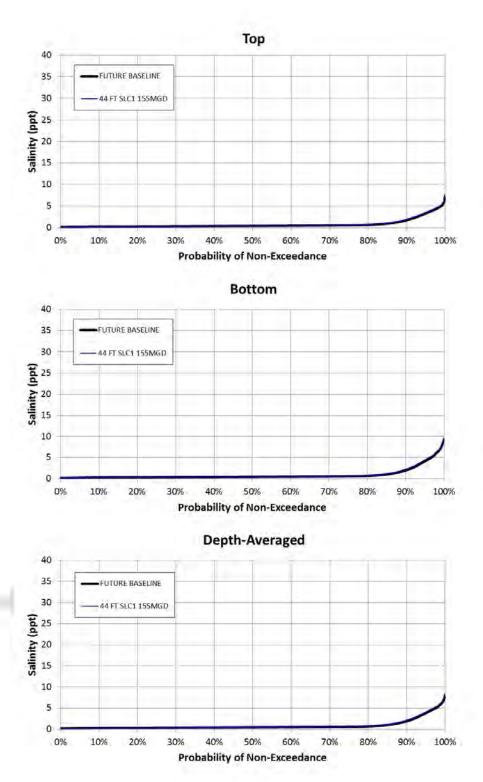


Figure 4.44 Comparison of Modeled Future Top Layer, Bottom Layer, and Depth-Averaged Salinity at Shands Bridge for Project at 44 ft vs. Baseline

4.4.3.3 Water Age

Comparisons of the modeled water age provide the means to evaluate impact of the project on future water circulation. Compared to future baseline conditions (Table 4.9), Table 4.10 indicates less than 1% (equivalent to additional 4 days per year) and smaller than -3% changes in probability (equivalent to reduction of 11 days per year) that the modeled water age is older than 30 to 210 days. More importantly, as negative changes occur at higher water ages (e.g., older than 150 days) and positive changes occur at lower ages (e.g., younger than 150 days), the project generally reduces water ages or slightly improves circulation along the river. Based on these water age comparisons, the Project at 44 ft will likely not reduce significantly future water circulation in the study area.

Table 4.10 Changes in Percent of Time Model Results Exceeds Water Age for Future Project at 44 ft

Station / Layer	Daily Water Age (Day) Greater Than							
	30	60	90	120	150	180	210	
Dames Point								
Top Layer	0.0%	0.1%	0.5%	-0.2%	-1.7%	-1.1%	-1.9%	
Bottom Layer	0.0%	0.0%	0.0%	-0.7%	-2.9%	-2.0%	-0.8%	
Acosta Bridge								
Top Layer	0.0%	0.2%	0.2%	0.1%	-0.5%	-1.6%	-1.1%	
Bottom Layer	0.0%	0.0%	0.7%	0.0%	-1.0%	-1.2%	-1.0%	
SAVPTLV								
Top Layer	0.0%	0.0%	0.1%	-0.2%	-0.8%	-1.1%	-2.1%	
Bottom Layer	0.0%	0.1%	0.0%	-0.1%	-0.6%	-1.3%	-1.7%	
JAXSJR40								
Top Layer	0.0%	0.1%	0.1%	0.1%	-0.9%	-0.6%	-2.1%	
Bottom Layer	0.0%	0.1%	0.0%	-0.2%	-1.0%	-1.3%	-2.0%	
SAVBOLS								
Top Layer	0.0%	0.1%	0.0%	0.0%	-0.5%	-0.5%	-1.2%	
Bottom Layer	0.0%	0.0%	0.0%	-0.1%	-0.7%	-0.5%	-1.4%	
Buckman Bridge								
Top Layer	0.0%	0.0%	-0.1%	0.1%	-0.5%	-0.8%	-1.8%	
Bottom Layer	0.0%	0.0%	-0.1%	0.0%	-0.9%	-0.7%	-1.7%	
SJRHBP								
Top Layer	0.0%	-0.1%	0.0%	0.0%	-0.4%	-0.9%	-1.0%	
Bottom Layer	0.0%	0.0%	0.1%	0.0%	-0.6%	-0.5%	-1.5%	
Shands Bridge								
Top Layer	0.0%	-0.1%	-0.1%	-0.1%	-0.4%	-0.7%	-0.3%	
Bottom Layer	0.0%	-0.1%	-0.1%	-0.2%	-0.5%	-0.6%	-0.5%	

4.4.3 Project at 46 ft

4.4.3.1 Water Level

Figure 4.45 to Figure 4.49 show comparisons of duration curves between Project at 46 ft and baseline scenarios. The figures show water level probability of non-exceedance at select locations in the study area — Bar Pilot, Long Branch, Main Street Bridge, Buckman Bridge, and Shands Bridge. Compared to the future baseline scenario, model results show the future Project at 46 ft elevated high tides and lowered low tides by approximately 0.1 ft (i.e, increased tide range by 0.20 ft) at Long Branch and Main Street Bridge. Model results do not show appreciable differences in water level duration curves at Bar Pilot, Buckman Bridge, and Shands Bridge. Based on these comparisons, the future Project at 46 ft will not likely affect water levels upstream of Buckman Bridge. Also, the sea level rise and upstream river water withdrawal will likely reduce the project water level impacts by 50%.

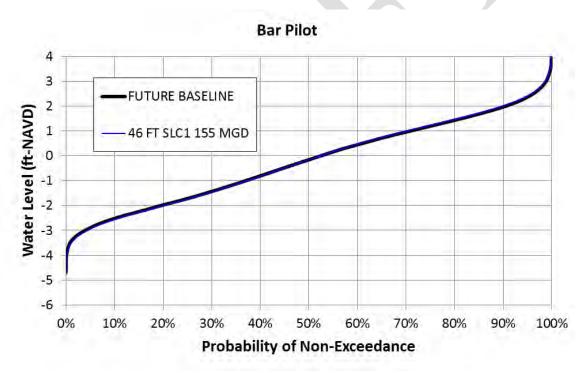


Figure 4.45 Comparison of Modeled Future Water Levels at Bar Pilot for Project at 46 ft vs. Baseline

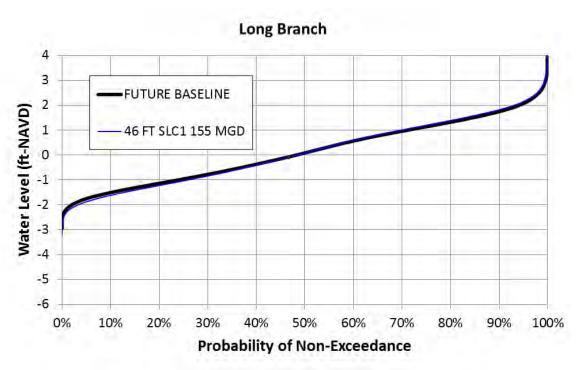


Figure 4.46 Comparison of Modeled Future Water Levels at Long Branch for Project at 46 ft vs. Baseline

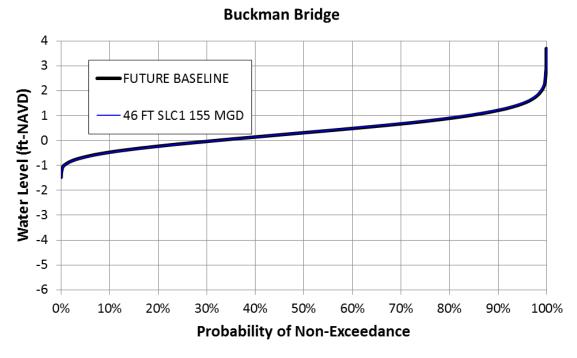


Figure 4.47 Comparison of Modeled Future Water Levels at Main Street Bridge for Project at 46 ft vs. Baseline

Buckman Bridge

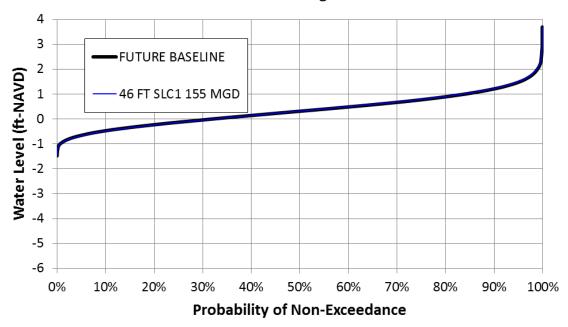


Figure 4.48 Comparison of Modeled Future Water Levels at Buckman Bridge for Project at 46 ft vs. Baseline



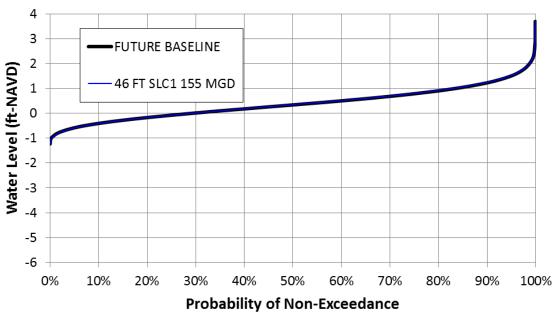


Figure 4.49 Comparison of Modeled Future Water Levels at Shands Bridge for Project at 46 ft vs. Baseline

4.4.3.2 Salinity

Figure 4.50 to Figure 4.53 show comparisons of salinity duration curves between future Project at 46 ft and future baseline scenarios. The figures show salinity probability of non-exceedance at select locations in the study area — Dames Point, Acosta Bridge, Buckman Bridge, and Shands Bridge. These comparisons summarize the future salinity effect of the project along the river.

At Dames Point, model results (Figure 4.50) show salinity below 20.9 ppt (top), 29.3 ppt (bottom), and 25.7 ppt (depth-averaged) for 50% of the time. From future baseline conditions, the top layer salinity increased by 0.8 ppt 50% of the time (i.e., only when the salinity was below 20 ppt) and that very small changes occurred in bottom layer and depth-averaged salinity.

At Acosta Bridge, model results (Figure 4.51) show salinity below 11.5 ppt (top), 14.0 ppt (bottom), and 12.9 ppt (depth-averaged) for 50% of the time. From future baseline conditions, the top layer, bottom-layer, and depth-averaged salinity increased by 1.0 ppt for 10% to 90% of the time (i.e., only when the salinity was between 2 to 22 ppt).

At Buckman Bridge, model results (Figure 4.52) show salinity below 2.0 ppt (top), 3.4 ppt (bottom), and 3.0 ppt (depth-averaged) for 50% of the time. From future baseline conditions, the top layer, bottom-layer, and depth-averaged salinity increased by 0.6 ppt for 50% of the time (i.e., only when the salinity was above 3 ppt).

At Shands Bridge, model results (Figure 4.53) show low salinity stayed below 0.6 ppt and 2.0 ppt for 50% and 90% of the time. Figure 4.53 shows the top layer, bottom-layer, and depth-averaged salinity at Shands Bridge will likely not change after construction of Project at 46 ft. Based on these comparisons, the Project at 46 ft will not likely affect future salinity upstream of Shands Bridge.

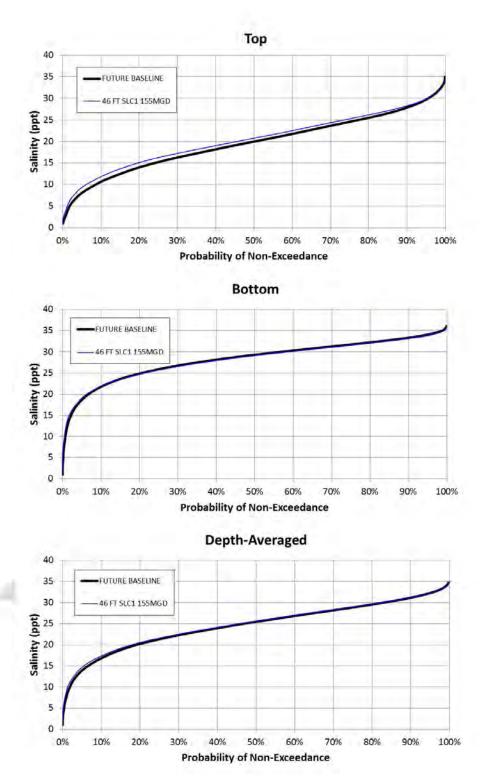
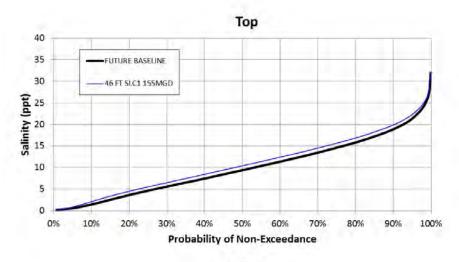
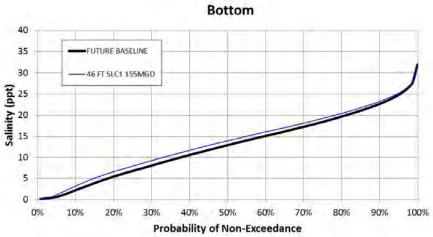


Figure 4.50 Comparison of Modeled Future Top Layer, Bottom Layer, and Depth-Averaged Salinity at Dames Point for Project at 46 ft vs. Baseline





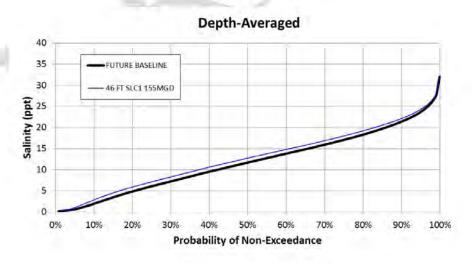
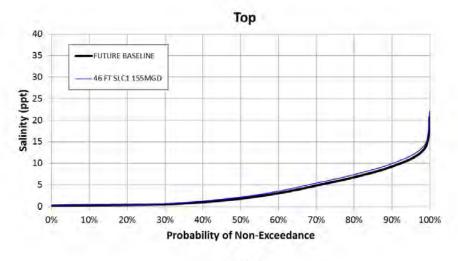
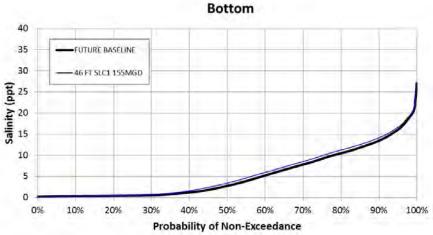


Figure 4.51 Comparison of Modeled Future Top Layer, Bottom Layer, and Depth-Averaged Salinity at Acosta Bridge for Project at 46 ft vs. Baseline





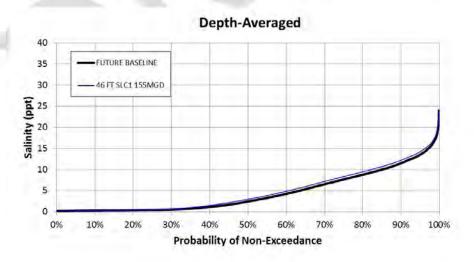


Figure 4.52 Comparison of Modeled Future Top Layer, Bottom Layer, and Depth-Averaged Salinity at Buckman Bridge for Project at 46 ft vs. Baseline

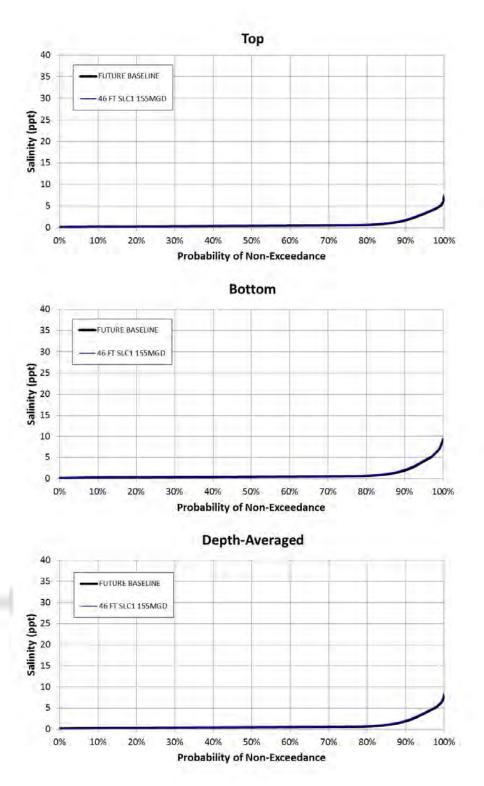


Figure 4.53 Comparison of Modeled Future Top Layer, Bottom Layer, and Depth-Averaged Salinity at Shands Bridge for Project at 46 ft vs. Baseline

4.4.2.3 Water Age

Comparisons of the modeled water age provide the means to evaluate impact of the project on water circulation. Compared to future baseline conditions (Table 4.9), Table 4.11 indicates less than 0.5% (equivalent to additional 2 days per year) and smaller than -3% changes in probability (equivalent to reduction of 11 days per year) that the modeled water age is older than 30 to 210 days. More importantly, as negative changes occur at higher water ages (e.g., older than 150 days) and positive changes occur at lower ages (e.g., younger than 150 days), the project generally reduces water ages or slightly improves circulation along the river. Based on these water age comparisons, the Project at 46 ft will likely not significantly reduce future water circulation in the study area.

Table 4.11 Changes in Percent of Time Model Results Exceeds Water Age for Future Project at 46 ft

Station / Layer -	Daily Water Age (Day) Greater Than							
	30	60	90	120	150	180	210	
Dames Point								
Top Layer	0.0%	0.2%	0.6%	0.2%	-1.5%	-1.0%	-1.9%	
Bottom Layer	0.0%	0.0%	0.0%	-0.7%	-2.8%	-1.6%	-0.6%	
Acosta Bridge								
Top Layer	0.0%	0.4%	0.2%	0.5%	-0.5%	-1.6%	-1.1%	
Bottom Layer	0.0%	0.2%	0.6%	0.2%	-1.1%	-0.9%	-0.8%	
SAVPTLV								
Top Layer	0.0%	0.1%	0.0%	0.1%	-0.8%	-1.1%	-1.9%	
Bottom Layer	0.0%	0.2%	0.0%	0.0%	-0.7%	-1.3%	-1.7%	
JAXSJR40								
Top Layer	0.0%	0.2%	0.1%	0.2%	-0.7%	-0.6%	-1.6%	
Bottom Layer	0.0%	0.1%	0.0%	0.0%	-1.0%	-1.4%	-1.8%	
SAVBOLS		, and the second						
Top Layer	0.0%	0.2%	0.1%	0.2%	-0.4%	-0.5%	-0.9%	
Bottom Layer	0.0%	0.2%	0.1%	0.3%	-0.4%	-0.5%	-1.0%	
Buckman Bridge								
Top Layer	0.0%	0.0%	0.0%	0.3%	-0.6%	-0.6%	-1.2%	
Bottom Layer	0.0%	0.0%	0.1%	0.0%	-0.9%	-0.7%	-1.3%	
SJRHBP								
Top Layer	0.0%	0.0%	-0.1%	0.0%	-0.5%	-0.8%	-1.0%	
Bottom Layer	0.0%	0.0%	0.0%	0.0%	-0.5%	-0.4%	-1.5%	
Shands Bridge								
Top Layer	0.0%	0.0%	-0.1%	-0.1%	-0.4%	-0.7%	-0.3%	
Bottom Layer	0.0%	0.0%	-0.1%	-0.2%	-0.5%	-0.6%	-0.5%	

4.4.4 Project at 50 ft

4.4.4.1 Water Level

Figure 4.54 to Figure 4.58 show comparisons of duration curves between future Project at 50 ft and future baseline scenarios. The figures show water level probability of non-exceedance at select locations in the study area — Bar Pilot, Long Branch, Main Street Bridge, Buckman Bridge, and Shands Bridge. Compared to the future baseline scenario, model results show the future Project at 50 ft elevated high tides and lowered low tides by approximately 0.05 ft (i.e, increased tide range by 0.1 ft) at Bar Pilot, by approximately 0.1 ft (i.e, increased tide range by 0.2 ft) at Long Branch, and by approximately 0.05 ft (i.e, increased tide range by 0.1 ft) at Main Street Bridge. Model results do not show appreciable differences in water level duration curves at Buckman Bridge and Shands Bridge. Based on these comparisons, the Project at 50 ft will not likely affect future water levels upstream of Buckman Bridge. Also, the sea level rise and upstream river water withdrawal will likely reduce the project water level impacts by 50%.

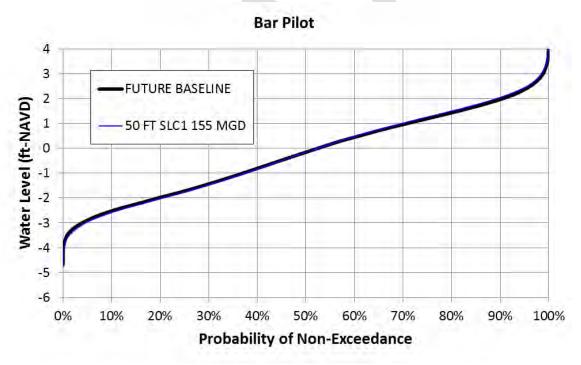


Figure 4.54 Comparison of Modeled Future Water Levels at Bar Pilot for Project at 50 ft vs. Baseline

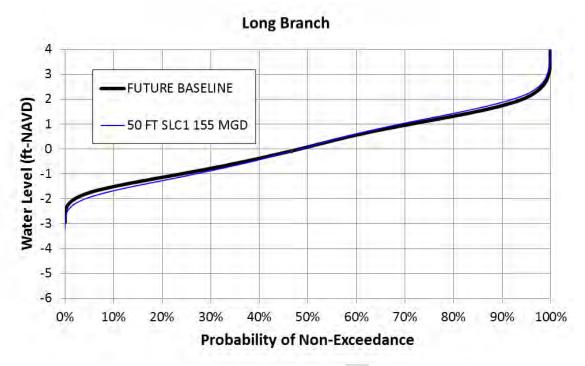


Figure 4.55 Comparison of Modeled Future Water Levels at Long Branch for Project at 50 ft vs. Baseline

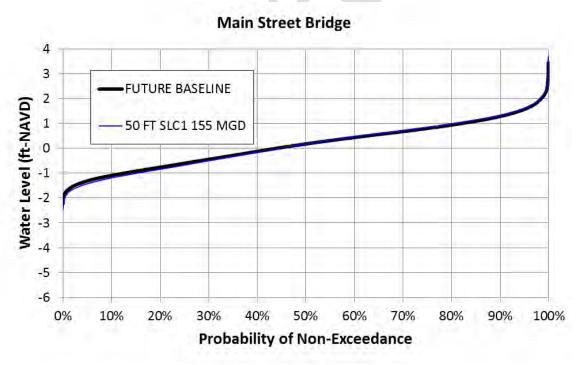


Figure 4.56 Comparison of Modeled Future Water Levels at Main Street Bridge for Project at 50 ft vs. Baseline

Buckman Bridge

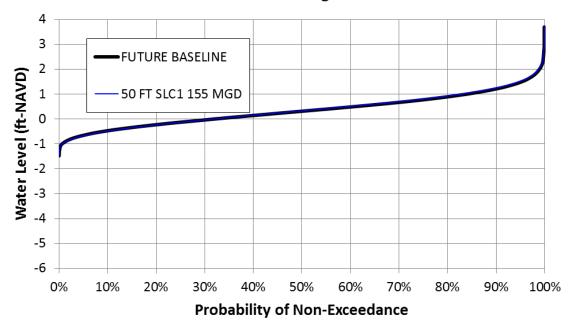


Figure 4.57 Comparison of Modeled Future Water Levels at Buckman Bridge for Project at 50 ft vs. Baseline

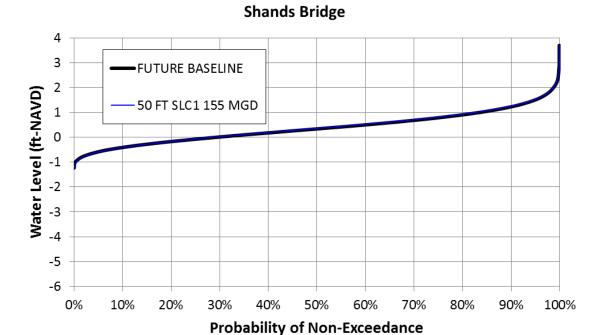


Figure 4.58 Comparison of Modeled Future Water Levels at Shands Bridge for Project at 50 ft vs. Baseline

4.4.4.2 Salinity

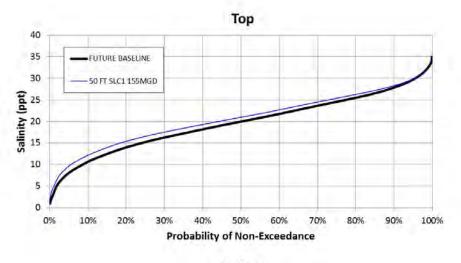
Figure 4.59 to Figure 4.62 show comparisons of salinity duration curves between future Project at 50 ft and future baseline scenarios. The figures show salinity probability of non-exceedance at select locations in the study area — Dames Point, Acosta Bridge, Buckman Bridge, and Shands Bridge. These comparisons summarize the future salinity effect of the project along the river.

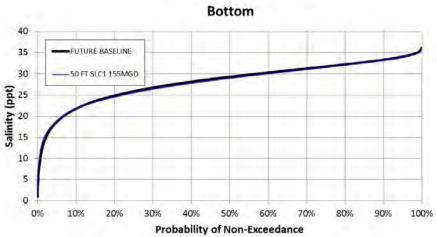
At Dames Point, model results (Figure 4.59) show salinity below 21.0 ppt (top), 29.0 ppt (bottom), and 25.5 ppt (depth-averaged) for 50% of the time. Notably, the slight decrease in the bottom salinity from future baseline conditions was likely caused by more saline water shifting to the deeper navigation channel. From future baseline conditions, the top layer salinity increased by 1.4 ppt for 50% of the time (i.e., only when the salinity was below 25 ppt), the bottom layer decreased by 0.3 ppt (i.e., only when the salinity was below 30 ppt), and very small changes occurred in depth-averaged salinity.

At Acosta Bridge, model results (Figure 4.60) show salinity below 10.8 ppt (top), 14.2 ppt (bottom), and 13.0 ppt (depth-averaged) for 50% of the time. From future baseline conditions, the top layer, bottom-layer, and depth-averaged salinity increased by 1.5 ppt for 10% to 90% of the time (i.e., only when the salinity was between 2 to 22 ppt).

At Buckman Bridge, model results (Figure 4.61) show salinity below 2.5 ppt (top), 3.6 ppt (bottom), and 3.0 ppt (depth-averaged) for 50% of the time. From future baseline conditions, the top layer, bottom-layer, and depth-averaged salinity increased by 0.7 ppt for 50% of the time (i.e., only when the salinity was above 3 ppt).

At Shands Bridge, model results (Figure 4.62) show low salinity stayed below 0.6 ppt and 2.0 ppt for 50% and 90% of the time. Figure 4.62 show the top layer, bottom-layer, and depth-averaged salinity at Shands Bridge will likely not change after construction of Project at 50 ft. Based on these comparisons, the Project at 50 ft will not likely affect future salinity upstream of Shands Bridge.





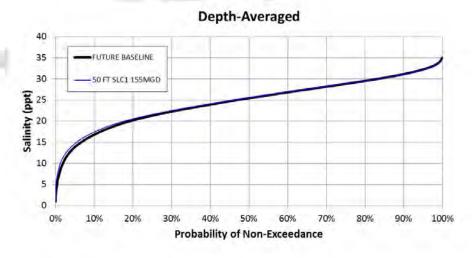


Figure 4.59 Comparison of Modeled Future Top Layer, Bottom Layer, and Depth-Averaged Salinity at Dames Point for Project at 50 ft vs. Baseline

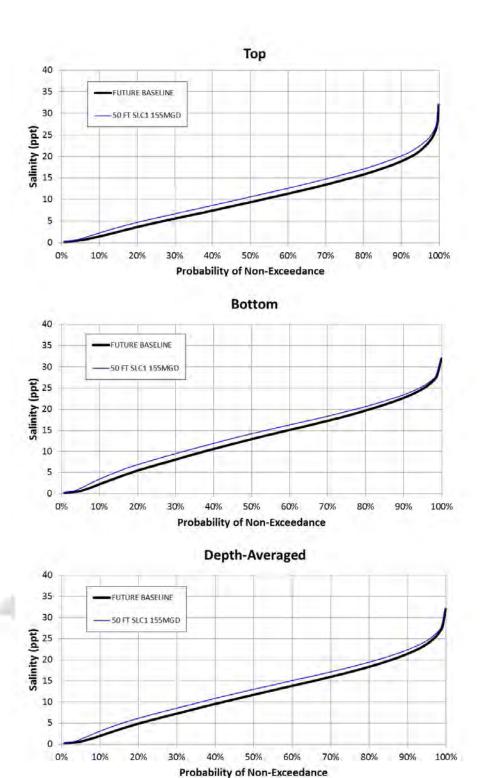


Figure 4.60 Comparison of Modeled Future Top Layer, Bottom Layer, and Depth-Averaged Salinity at Acosta Bridge for Project at 50 ft vs. Baseline

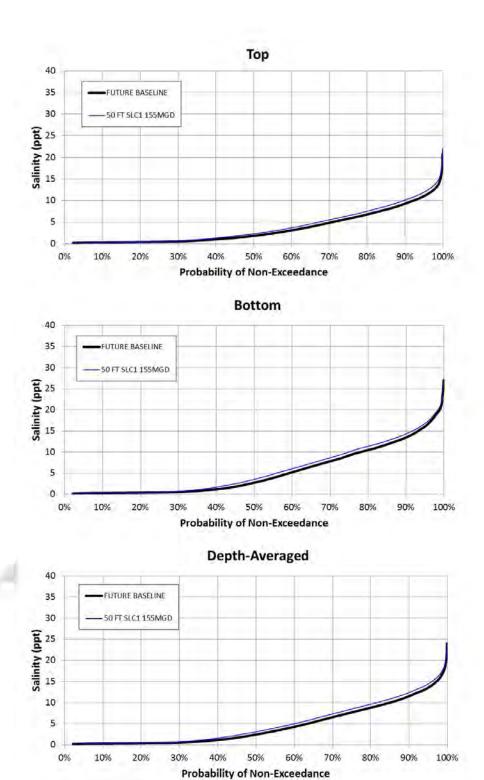


Figure 4.61 Comparison of Modeled Future Top Layer, Bottom Layer, and Depth-Averaged Salinity at Buckman Bridge for Project at 50 ft vs. Baseline

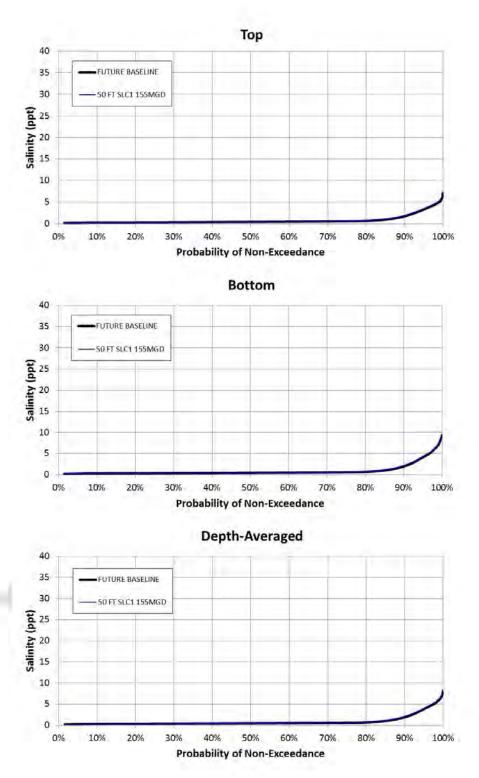


Figure 4.62 Comparison of Modeled Future Top Layer, Bottom Layer, and Depth-Averaged Salinity at Shands Bridge for Project at 50 ft vs. Baseline

4.4.4.3 Water Age

Comparisons of the modeled water age provide the means to evaluate impact of the project on water circulation. Compared to future baseline conditions (Table 4.9), Table 4.12 indicates less than 1.3% (equivalent to additional 5 days per year) and smaller than -1.7% changes in probability (equivalent to reduction of 6 days per year) that the modeled water age is older than 30 to 210 days. More importantly, as negative changes occur at higher water ages (e.g., older than 150 days) and positive changes occur at lower ages (e.g., younger than 150 days), the project generally reduces water ages or slightly improves circulation along the river. Based on these water age comparisons, the Project at 50 ft will likely not significantly reduce future water circulation in the study area.

Table 4.12 Changes in Percent of Time Model Results Exceeds Water Age for Future Project at 50 ft

G / T		Da	aily Water A	age (Day) Gr	eater Than		
Station / Layer	30	60	90	120	150	180	210
Dames Point							
Top Layer	0.0%	0.3%	1.1%	0.5%	-0.7%	-0.6%	-1.0%
Bottom Layer	0.0%	0.0%	0.0%	-0.5%	-1.0%	-1.6%	-0.3%
Acosta Bridge							
Top Layer	0.0%	0.5%	0.3%	1.1%	-0.1%	-1.0%	-0.7%
Bottom Layer	0.0%	0.3%	1.1%	0.5%	-0.5%	-0.4%	-0.4%
SAVPTLV							
Top Layer	0.0%	0.1%	0.1%	0.6%	-0.3%	-0.5%	-0.9%
Bottom Layer	0.0%	0.3%	0.3%	0.9%	-0.1%	-0.7%	-0.9%
JAXSJR40							
Top Layer	0.0%	0.3%	0.4%	0.7%	0.0%	-0.2%	-0.5%
Bottom Layer	0.0%	0.2%	0.1%	0.7%	0.1%	-0.7%	-0.9%
SAVBOLS							
Top Layer	0.0%	0.3%	0.1%	0.7%	0.1%	-0.1%	-0.1%
Bottom Layer	0.0%	0.3%	0.2%	0.6%	0.2%	-0.1%	-0.4%
Buckman Bridge							
Top Layer	0.0%	0.1%	0.3%	1.2%	0.3%	0.0%	-0.1%
Bottom Layer	0.0%	0.2%	0.3%	0.8%	0.0%	-0.3%	-0.6%
SJRHBP							
Top Layer	0.0%	0.1%	0.5%	0.1%	0.5%	0.0%	0.0%
Bottom Layer	0.0%	0.1%	0.5%	0.2%	0.3%	0.1%	0.0%
Shands Bridge							
Top Layer	0.0%	0.0%	0.5%	0.4%	0.0%	0.0%	0.0%
Bottom Layer	0.0%	0.0%	0.5%	0.3%	0.0%	-0.1%	0.0%

5.0 POST-PROCESSING OF USACE MODEL RESULTS

This chapter describes the procedure for preparing the USACE model results for input data for five ecological models, namely submerged aquatic vegetation (SAV), wetlands, fish, benthic macroinvertebrates (BMI), and plankton. These ecological models provide the means to evaluate the potential effect of the Jacksonville Harbor Deepening Project on the ecological system in the Lower St. Johns River. A separate report from another task order describes the ecological modeling procedure, ecological modeling results, and impact on ecology of the project. Post-processing of the USACE model salinity and water age results for the 2016 and 2068 scenarios provided the ecological model inputs. The paragraphs below summarize and Appendix D describes in detail the USACE model results post-processing procedure.

5.1 Submerged Aquatic Vegetation (SAV)

The SAV model evaluates the potential effect of changes in salinity on submerged aquatic vegetation. The SAV model requires as input data the 7-, 30-, and 90-day moving average of the shoreline surface salinity. Thus, the SAV evaluation area includes only USACE model cells adjacent to the shoreline approximately between river Miles 24 and 48 (Figure 5.1). Seven-day, 30-day, and 90-day moving average surface salinities calculated from daily average salinity provided input to the SAV model.

5.2 Wetlands

The wetland vegetation model evaluates the potential effects of channel deepening on wetland vegetation communities to movement of salinity isopleths in Lower St. Johns River. The wetland vegetation model requires the mean of depth-averaged salinity for all USACE model cells downstream of Lake George and Cypress Lake to the mouth of the river (Figure 5.2). The post-processing program calculated the mean of depth-averaged salinity from USACE model hourly salinity data.

5.3 Fish

The fish model evaluates the potential effects of channel deepening on the spatial coverage of five salinity habitat blocks communities in Lower St. Johns River (Figure 5.2). Periods of maximum average salinity (30-, 60-, and 90-day) determined from baseline and alternative scenarios by year

provided basis for the fish model. Examining and running daily and vertical averages of basin-wide salinity determined periods of maximum average for the baseline scenario.



Figure 5.1 USACE Model Shoreline Cells for SAV Model



Figure 5.2 USACE Model Cells for Wetland, Fish, and BMI Models

5.4 Benthic Macroinvertebrates (BMI)

Assessment of changes in total benthic populations requires salinity zone area changes. In turn, assessment of changes in salinity zone areas requires output similar to the fish model. Calculated periods of maximum average salinity (30-, 60-, and 90-day) determined from baseline and alternative scenarios by year provided basis for BMI. Examining and running daily averages of basin-wide bottom salinity

determined periods of maximum average for the baseline scenario. Additionally, the BMI model requires daily maximum bottom salinities at three specified locations (Figure 5.3 and Table 5.1).

Table 5.1 Post-Processing Stations for BMI Model

Station	State Plane Florida East NAD 83					
Station	X (ft)	Y (ft)				
JAXSJR17	460987.5	2193911.0				
JAXSJR40	448481.8	2152256.5				
SJSR16	463032.3	2052159.3				

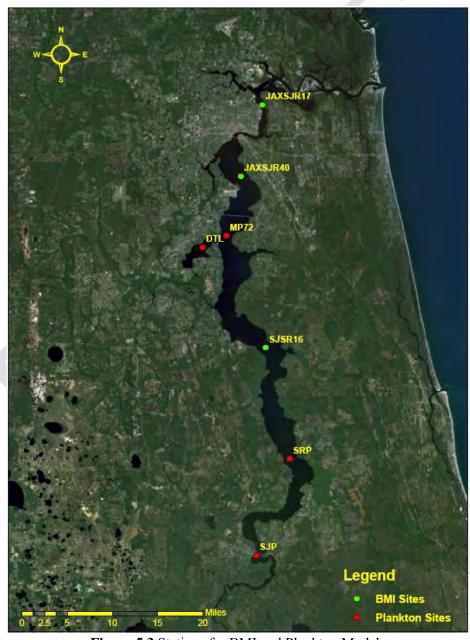


Figure 5.3 Stations for BMI and Plankton Models

5.5 Plankton

The Plankton model evaluates the potential effects of channel deepening on plankton communities based on the relationship of plankton metrics to water residence time (water age) at four specified locations (Figure 5.3 and Table 5.2). Plankton regression models require differing sets of water age input variables for a series of five-quarter periods. Each period begins with the last quarter of the preceding calendar year (7 uarter "+") and extending through the four quarters (",", "-", ".", "/") of the following calendar year. Within each five-quarter period, the minimum, maximum, and mean water age values for each of seven time periods (April – October, April – August, and Quarters A, B, C, D, and E) and the inverse of the minimum, maximum, and mean water age values are used as independent variables in the Plankton regression calculations. : he; 9+-/ model's hourly water age results provided the basis for calculation of the water age values. Table 5.3 shows the variable set required for these models.

Table 5.2 Post-Processing Stations for Plankton Model

Station	State Plane Florid	da East NAD 83
Station	X (ft)	Y (ft)
SJP	457625.2	1930860.9
SRP	477139.9	1987230.8
DTL	426290.5	2110868.6
MP72	440029.7	2117552.3

Table 5.3 Input Variables for Plankton Empirical Regression Models

Variable	A	В	С	D	Е	April - August	April - October
Mean Water Age	✓			✓		✓	
Minimum Water Age				✓			
Maximum Water Age	✓		✓		✓		✓
Inverse Mean Water Age	✓	✓	✓		✓		✓
Inverse Minimum Water Age			✓	✓			✓
Inverse Maximum Water Age	✓				✓		

6.0 SUMMARY AND CONCLUSIONS

The EFDC hydrodynamic and salinity model, validated for the Jacksonville Harbor Deepening project area, provided the means to assess the direct impacts of channel modifications to salinity and water circulation in the main stem of the Lower St. Johns River. This study applied the model to simulate three project alternatives (navigation channel dredging to 44 ft, 46 ft, and 50 ft depth below mean lower low water from east of the river mouth to Mile 14) and analyzed the project impact during a six-year evaluation period. The six-year evaluation period includes the lowest river flow during any three-year period in the river's 78-year flow record to ensure that assessed project impacts are greater than those during an average year. : herefore, this study's evaluation presents conservative estimates of the impacts of the Jacksonville Harbor Deepening Project. Notably, the evaluations assumed completion of the Mile Point and Mayport deepening projects with the Jacksonville Harbor Deepening Project.

2018 Baseline Water Level, Salinity, and Water Age

A plot of a duration curve provides the amount of time (expressed as a percentage of the evaluation period) that the water level was below a given water level. Duration curves of modeled baseline water levels provide a summary of the pre-project water level regime at select locations along the river. The 10, 50, and 90 precentile of the duration curves provided estimates of low, median, and high tide levels. Table 6.1 provides the station locations and provides estimates of the baseline low, median, and high tide levels at Bar Pilot, Long Branch, Main Street Bridge, Buckman Bridge, and Shands Bridge.

Table 6.1 Water Level Station Coordinates and Baseline Low Tide, Median Tide, and High Tide Levels

Station	Coordinates (Florida East NAD83)		Water Level (ft NAVD) at Non-Exceedance Percentage				
Station	Easting (ft)	Northing (ft)	10 % (Low Tide)	50% (Median Tide)	90% (High Tide)		
Bar Pilot	521362.8	2205006.1	-2.9	-0.5	1.6		
Long Branch	460589.9	2190394.9	-1.9	-0.3	1.4		
Main Street Bridge	448370.5	2177227.7	-1.5	-0.2	0.9		
Buckman Bridge	438063.9	2130295.8	-0.9	-0.1	0.8		
Shands Bridge	455653.2	2054272.6	-0.8	0.0	0.8		

The USACE model provided hourly salinity and water age results at each model grid cell for each of the six vertical layers. Water age characterizes water circulation and indicates the time a modeled water particle has resided within the USACE model domain. Low water age is associated with water that newly

entered the model domain through the model's lateral inflows. 2 igh water age is associated with water that has travelled upstream and downstream in the river for a very long time. Thus, fast moving water will have low water age and stagnant water will have high water age. The hourlysalinity and water age results provided the means to generate a duration curve for the top layer, bottom layer, and depth-averaged salinity.

At Dames Point, model results show baseline salinity averaged 24.3 ppt and was below 19.7 ppt (top), 29.0 ppt (bottom), and 25.1 ppt (depth-averaged) for 50% of the time. At Acosta Bridge, model results show salinity averaged 11.5 ppt and was below 9.0 ppt (top), 12.5 ppt (bottom), and 11.3 ppt (depth-averaged) for 50% of the time. At Buckman Bridge, model results show salinity averaged 4.0 ppt and was below 1.5 ppt (top), 2.0 ppt (bottom), and 1.9 ppt (depth-averaged) for 50% of the time. At Shands Bridge, model results show salinity averaged 0.7 ppt and stayed below 0.6 ppt and 1.4 ppt for 50% and 90% of the time.

Modeled baseline water age generally increased downstream as the major water inflow was located upstream at Astor and net river flow was downstream. The top layer had lower water age than the bottom layer because upper layers had better mixing due to faster flows at upper layers and additional mixing due to wind stress. Model results show water was older than 30 days at Dames Point to Buckman Bridge 100% of the time and 99% of the time at SJRHBP and Shands Bridge. Results also show water is rarely (i.e., less than 7% of the time) older than 210 days at all the selected stations. Interestingly, ocean water reduced water age that was more than 180 days at Dames Point and Acosta Bridge.

2018 With Project Water Level, Salinity, and Water Age

Model results associated with conditions immediately after construction of the Jacksonville Harbor Deepening Project show that:

1. Based on the 10th and 90th percentile of the water level duration curve, Project at 44 ft will likely increase tide range by 0.2 ft at Long Branch and Main Street Bridge. Based on the 50th percentile of the salinity duration curve, the top, bottom, and depth-averaged, salinity will likely increase by 0.3 – 0.4 ppt from Dames Point to Buckman Bridge and will likely have very small change upstream of Shands Bridge. The project will likely not reduce water circulation in the study area.

- 2. Based on the 10th and 90th percentile of the water level duration curve, Project at 46 ft will likely increase tide range by 0.4 ft at Long Branch and Main Street Bridge. Based on the 50th percentile of the salinity duration curve, the top, bottom, and depth-averaged, salinity will likely increase by 0.5 0.7 ppt from Dames Point to Buckman Bridge and will likely have very small change upstream of Shands Bridge. The project will likely not reduce water circulation in the study area.
- 3. Based on the 10th and 90th percentile of the water level duration curve, Project at 50 ft will likely increase tide range by 0.2 ft at Bar Pilot, by 0.4 ft at Long Branch, and by 0.1 ft at Main Street Bridge. Based on the 50th percentile of the salinity duration curve, the top, bottom, and depth-averaged, salinity will likely increase by 0.3 1.0 ppt from Dames Point to Buckman Bridge and will likely have very small change upstream of Shands Bridge. The project can slightly impede downstream river flow and slightly increase water age as the project allows more ocean water to flow upstream. However, the change in water age is small enough (e.g., water age stays 7 days longer at select water age values per year) that the project will likely not significantly reduce water circulation in the study area.

2068 Baseline Water Level, Salinity, and Water Age

The 2068 scenarios represent future without project conditions 50 years from 2018. The USACE describes these future scenarios as having similar bathymetric conditions as the 2018 scenarios and include the Mile Point and Mayport deepening projects. However, the future scenarios include an offshore 0.39 ft of sea level rise (applied at the ocean boundary) and an upstream river water withdrawal of 155 million gallons per day (MGD) applied at the upstream boundary of the model.

uration curves of modeled future baseline water levels provide a summary of the "no project" water level regime at select locations along the river. The 10, 50, and 90 precentile of the duration curves provided estimates of low, median, and high tide levels. Table 4.8 provides estimates of the future baseline low, median, and high tide levels at Bar Pilot, Long Branch, Main Street Bridge, Buckman Bridge, and Shands Bridge. As expected, because of the additional 0.39 ft sea level rise, the low, median, and high tide levels in Table 4.8 are approximately 0.4 ft higher than the 2018 baseline tide levels (Table 6.1).

Table 6.2 Future Baseline Low Tide, Median Tide, and High Tide Levels

Station	Water Level (ft N	(AVD) at Non-Exceed	dance Percentage
Station	10 % (Low Tide)	50% (Median Tide)	90% (High Tide)
Bar Pilot	-2.6	-0.2	2.0
Long Branch	-1.6	0.0	1.8
Main Street Bridge	-1.2	0.2	1.3
Buckman Bridge	-0.5	0.3	1.2
Shands Bridge	-0.4	0.4	1.2

At Dames Point, model results show 2068 baseline salinity averaged 24.6 ppt and was below 20.0 ppt (top), 29.5 ppt (bottom), and 25.5 ppt (depth-averaged) for 50% of the time. At Acosta Bridge, model results show salinity averaged 11.8 ppt and was below 9.5 ppt (top), 13.0 ppt (bottom), and 11.7 ppt (depth-averaged) for 50% of the time. At Buckman Bridge, model results show salinity averaged 4.4 ppt and was below 2.0 ppt (top), 2.5 ppt (bottom), and 2.4 ppt (depth-averaged) for 50% of the time. At Shands Bridge, model results show salinity averaged 0.8 ppt and stayed below 0.6 ppt and 1.8 ppt for 50% and 90% of the time. In comparison with the 2018 baseline scenario, the 0.39 ft sea level rise and 155 MGD river water withdrawal elevated the modeled salinity by about 0.5 ppt from Dames Point to Buckman Bridge and by 0.1 ppt at Shands Bridge.

Comparisons of the modeled water age for the future baseline and future project alternatives provide the means to evaluate impact of the project on future water circulation. The modeled 2068 baseline water age generally increased downstream and the top layer had lower water age than the bottom layer. Model results show water was older than 30 days at Dames Point to Buckman Bridge 100% of the time and 99% of the time at SJRHBP and Shands Bridge. Results also show water is older than 210 days for more than 10% of the time at SAVPTLV, JAXSJR40, SAVBOLS, and Buckman Bridge. In comparison with the 2018 baseline water ages, the water withdrawal and sea level rise generally increases water age.

2068 With Project Water Level, Salinity, and Water Age

Model results associated with conditions with 0.39 ft sea level rise and 155 MGD upstream river water withdrawal at 50 years after construction of the Jacksonville Harbor Deepening Project show that:

- 1. Based on the 10th and 90th percentile of the water level duration curve, Project at 44 ft will likely increase future tide range by 0.1 ft at Long Branch and Main Street Bridge. Based on the 50th percentile of the salinity duration curve, the top, bottom, and depth-averaged, future salinity will likely increase by 0.5 0.8 ppt from Dames Point to Buckman Bridge and will likely have very small change upstream of Shands Bridge. The project will likely not reduce future water circulation in the study area.
- 2. Based on the 10th and 90th percentile of the water level duration curve, Project at 46 ft will likely increase future tide range by 0.2 ft at Long Branch and Main Street Bridge. Based on the 50th percentile of the salinity duration curve, the top, bottom, and depth-averaged, future salinity will likely increase by 0.6 1.0 ppt from Dames Point to Buckman Bridge and will likely have very small change upstream of Shands Bridge. The project will likely not reduce future water circulation in the study area.
- 3. Based on the 10th and 90th percentile of the water level duration curve, Project at 50 ft will likely increase future tide range by 0.1 ft at Bar Pilot, by 0.2 ft at Long Branch, and by 0.1 ft at Main Street Bridge. Based on the 50th percentile of the salinity duration curve, the top, bottom, and depth-averaged, future salinity will likely increase by 0.7 1.5 ppt from Dames Point to Buckman Bridge and will likely have very small change upstream of Shands Bridge. The project will likely not reduce water circulation in the study area.

In general, the sea level rise and upstream river water withdrawal will likely reduce the above listed project water level impacts by approximately 50%. However, the water age associated with sea level rise and upstream river water withdrawal is about twice more than post-project construction for water ages greater than 150 days.

In conclusion, as this study applied a set of hydraulic and meteorological conditions that represents dry years to the salinity and circulation modeling, the project impacts presented here are likely greater than the project may cause during an average hydrological and meteorological year.

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APPENDIX A

EFDC Model Governing Hydrodynamic

The computational schemes in the EFDC model are equivalent to the widely used Princeton Ocean Model (POM) by Blumberg and Mellor (1987) in many aspects. The EFDC model uses sigma vertical coordinate and curvilinear orthogonal horizontal coordinates. The EFDC model solves the 3-D, vertically hydrostatic, free surface, turbulent averaged equations of motions for a variable density fluid. Dynamically coupled transport equations for turbulent kinetic energy, turbulent length scale, salinity, and temperature are also solved.

To provide uniform resolution in the vertical, a time variable stretching transformation is applied. The stretching is given by

$$z = (z^* + h)/(\zeta + h) \tag{A.1}$$

where * denotes the original physical vertical coordinates and h and ζ are the physical vertical coordinates of the bottom topography and the free surface respectively. This so called "sigma" coordinate allows smooth representation of the bathymetry and same order of accuracy in shallow and deep waters.

In sigma coordinate, transforming the vertically hydrostatic boundary layer form of the turbulent equations of motion and utilizing the Boussinesq approximation for variable density results in the momentum and continuity equations and the transport equations for salinity and temperature, in the following form (John Hamrick ,1996):

$$\begin{split} &\partial_{t}(\mathbf{m}\,\mathbf{H}\mathbf{u}) + \partial_{x}(\mathbf{m}_{y}\mathbf{H}\mathbf{u}\mathbf{u}) + \partial_{y}(\mathbf{m}_{x}\mathbf{H}\mathbf{v}\mathbf{u}) + \partial_{z}(\mathbf{m}\,\mathbf{w}\mathbf{u}) - (\mathbf{m}\,\mathbf{f} + \mathbf{v}\partial_{x}\mathbf{m}_{y} - \mathbf{u}\partial_{y}\mathbf{m}_{x})\,\mathbf{H}\mathbf{v} \\ &= -\mathbf{m}_{y}\mathbf{H}\partial_{x}(\mathbf{g}_{z}^{\omega} + \mathbf{P}) - \mathbf{m}_{y}(\partial_{x}\mathbf{h} - \mathbf{z}\partial_{x}\mathbf{H})\,\partial_{z}\mathbf{P} + \partial_{z}(\mathbf{m}\,\mathbf{H}_{1}\mathbf{A}_{v}\partial_{z}\mathbf{u}) + \mathbf{Q}_{u} \end{split} \tag{A.2}$$

$$\begin{split} &\partial_{t}(\mathbf{m} H \mathbf{v}) + \partial_{x}(\mathbf{m}_{y} H \mathbf{i} \mathbf{v}) + \partial_{y}(\mathbf{m}_{x} H \mathbf{v} \mathbf{v}) + \partial_{z}(\mathbf{m} \mathbf{w}) - (\mathbf{m} \mathbf{f} + \mathbf{v} \partial_{x} \mathbf{m}_{y} - \mathbf{u} \partial_{y} \mathbf{m}_{x}) \mathbf{H} \mathbf{i} \\ &= -\mathbf{m}_{x} \mathbf{H} \partial_{y}(\mathbf{g} \zeta + \mathbf{P}) - \mathbf{m}_{x}(\partial_{y} \mathbf{h} - \mathbf{z} \partial_{y} \mathbf{H}) \partial_{z} \mathbf{P} + \partial_{z}(\mathbf{m} \mathbf{H}_{1} \mathbf{A}_{v} \partial_{z} \mathbf{v}) + \mathbf{Q}_{v} \end{split} \tag{A.3}$$

$$\partial_z P = -gH(\rho - \rho_0)\rho_0^{-1} = -gHb \tag{A.4}$$

$$\partial_{t}(m\zeta) + \partial_{x}(m_{y}H_{t}) + \partial_{y}(m_{x}H_{t}) + \partial_{z}(m_{y}H_{t}) = 0$$
(A.5)

$$\partial_{t}(m\zeta) + \partial_{x}(m_{y}H\int_{0}^{1}udz) + \partial_{y}(m_{x}H\int_{0}^{1}vdz) = 0$$
(A.6)

$$\rho = \rho(P, S, T) \tag{A.7}$$

$$\partial_{t}(mHS) + \partial_{x}(mHS) + \partial_{y}(mHS) + \partial_{z}(mWS) + \partial_{z}(mHA_{b}\partial_{z}S) + Q_{S}$$
(A.8)

$$\partial_{t}(mHT) + \partial_{x}(m_{y}H_{t}T) + \partial_{y}(m_{x}H_{t}T) + \partial_{z}(m_{y}H_{t}T) + \partial_{z}(m_{y}H_{t$$

In the above equations, u and v are the horizontal velocity components in the curvilinear, orthogonal coordinates x and y, m_x and m_y are the square roots of the diagonal components of the metric tensor, $m = m_x m_y$ is the Jacobian or square root of the metric tensor determinant. The vertical velocity, with physical units, in the stretched, dimensionless vertical coordinate z is w, and is related to the physical vertical velocity w* by:

$$\mathbf{w} = \mathbf{w}^* - z(\partial_t \zeta + u m_{x-1} \partial_x \zeta + v m_{y-1} \partial_y \zeta) + (1-z) (u m_{x-1} \partial_x h + v m_{y-1} \partial_y h)$$
(A.10)

The total depth, $H = \zeta + h$, is the sum of the depth below and the free surface displacement relative to the undisturbed physical vertical coordinate origin, $z^* = 0$. The pressure p is the physical pressure in excess of the reference density hydrostatic pressure, $\rho_0 g H(1-z)$, divided by the reference density ρ_0 . In the momentum equations (Equations A.2 and A.3), f is the Coriolis parameter, A_v is the vertical turbulent or eddy viscosity, and Q_u and Q_v are momentum source-sink terms which will be later modeled as subgrid scale horizontal diffusion. The density ρ_0 , is in general a function of temperature, T, and salinity or water vapor, S, in hydrospheric and atmospheric flows respectively and can be a weak function of pressure, consistent with the incompressible continuity equation under the anelastic approximation (Mellor, 1991, Clark and Hall, 1991). The buoyancy, b, is defined in Equation (A.4) as the normalized deviation of density from the reference value. The continuity equation (Equation A.5) has been integrated with respect to z over the interval (0,1) to produce the depth integrated continuity equation (Equation A.6) using the vertical boundary conditions, w = 0, at z = (0,1), which follows from the kinematic conditions and equation (Equation A.10). In the transport equations for salinity and temperature equations (Equations A.8 and A.9) the source and sink terms, Q_S and Q_T include subgrid scale horizontal diffusion and thermal sources and sinks, while A_b is the vertical turbulent diffusivity.

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APPENDIX B

Summary of Comparisons of Salinity and Water Age for Project vs. Baseline (Deepening Only)

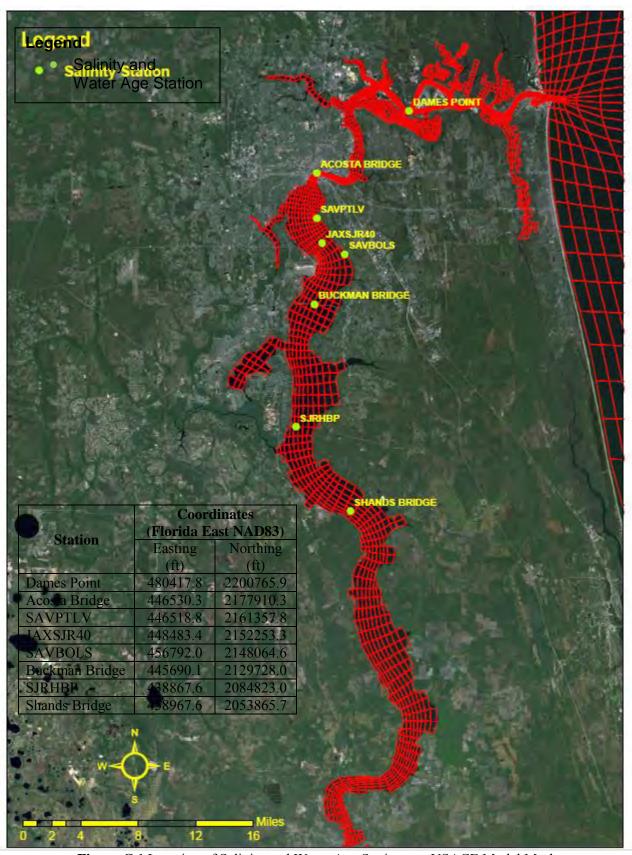


Figure C.1 Location of Salinity and Water Age Stations on USACE Model Mesh

Table C.1 Percent of Time Model Results Exceeds Salinity Levels for Baseline at 40 ft (Dames Point Station)

Layer 6 (Top)	Salinity (pt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	99.4%	98.5%	91.9%	75.5%	48.4%	22.0%	4.0%	0.0%
7	99.7%	98.9%	93.2%	76.5%	48.0%	21.3%	2.4%	0.0%
30	100.0%	99.7%	94.8%	77.6%	47.9%	18.6%	0.0%	0.0%
60	100.0%	100.0%	95.6%	82.0%	45.4%	18.6%	0.0%	0.0%
90	100.0%	100.0%	97.0%	84.0%	45.3%	17.9%	0.0%	0.0%
Layer 5	Salinity (opt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	100.0%	99.3%	96.7%	86.8%	65.0%	35.3%	7.7%	0.0%
7	100.0%	99.6%	96.9%	88.8%	65.1%	34.7%	5.3%	0.0%
30	100.0%	100.0%	98.0%	91.2%	66.5%	33.3%	2.5%	0.0%
60	100.0%	100.0%	99.2%	90.7%	67.2%	31.5%	0.7%	0.0%
90	100.0%	100.0%	100.0%	91.2%	70.7%	29.4%	0.0%	0.0%
Layer 4	Salinity (pt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	100.0%	99.9%	98.3%	93.4%	79.0%	49.7%	14.1%	0.0%
7	100.0%	100.0%	98.7%	94.3%	80.7%	48.6%	11.7%	0.0%
30	100.0%	100.0%	99.5%	95.3%	83.0%	48.1%	8.3%	0.0%
60	100.0%	100.0%	100.0%	96.2%	84.6%	45.6%	6.3%	0.0%
90	100.0%	100.0%	100.0%	97.5%	85.1%	44.5%	4.0%	0.0%
Layer 3	Salinity (pt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	100.0%	100.0%	98.8%	96.1%	86.5%	60.3%	20.4%	0.0%
7	100.0%	100.0%	99.5%	96.7%	88.6%	60.5%	18.4%	0.0%
30	100.0%	100.0%	100.0%	97.5%	90.7%	61.6%	13.9%	0.0%
60	100.0%	100.0%	100.0%	99.1%	90.4%	59.9%	13.7%	0.0%
90	100.0%	100.0%	100.0%	100.0%	90.0%	54.1%	11.9%	0.0%
Layer 2	Salinity (ppt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	100.0%	100.0%	99.4%	97.6%	92.0%	71.9%	27.1%	0.0%
7	100.0%	100.0%	99.7%	98.0%	93.2%	71.0%	25.5%	0.0%
30	100.0%	100.0%	100.0%	99.2%	94.4%	70.7%	23.5%	0.0%
60	100.0%	100.0%	100.0%	100.0%	94.3%	74.5%	21.6%	0.0%
90	100.0%	100.0%	100.0%	100.0%	96.2%	75.9%	20.2%	0.0%
Layer 1 (Bottom)	100.0%	100.070						
-470 (Doctoril)	l.	ppt) greate						
Moving Average Period (day)	l.	<u>l</u>		15	20	25	30	35
	Salinity (p	opt) greate	r than	15 98.4%	20 95.2%	25 79.6%	30 34.2%	35 0.0%
Moving Average Period (day)	Salinity (p	opt) greate 5	r than 10					
Moving Average Period (day) 1	Salinity (p 3 100.0%	opt) greate 5 100.0%	r than 10 99.6%	98.4%	95.2%	79.6%	34.2%	0.0%
Moving Average Period (day) 1 7	Salinity (p 3 100.0% 100.0%	pt) greate 5 100.0% 100.0%	r than 10 99.6% 100.0%	98.4% 99.0%	95.2% 95.4%	79.6% 82.3%	34.2% 32.6%	0.0%

Table C.2 Percent of Time Model Results Exceeds Salinity Levels for Baseline at 40 ft (Acosta Bridge Station)

Layer 6 (Top)	Salinity (opt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	84.4%	74.1%	44.9%	22.3%	5.5%	0.6%	0.0%	0.0%
7	86.9%	75.9%	44.3%	21.3%	3.9%	0.4%	0.0%	0.0%
30	91.1%	74.9%	43.8%	19.9%	2.1%	0.0%	0.0%	0.0%
60	90.9%	81.1%	41.9%	19.7%	0.7%	0.0%	0.0%	0.0%
90	91.6%	84.2%	43.4%	18.6%	0.0%	0.0%	0.0%	0.0%
Layer 5	Salinity (opt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	87.5%	79.5%	52.9%	28.9%	9.3%	1.6%	0.1%	0.0%
7	90.1%	81.4%	53.6%	28.8%	7.1%	0.7%	0.0%	0.0%
30	93.7%	84.6%	54.1%	28.0%	5.2%	0.0%	0.0%	0.0%
60	95.3%	85.6%	52.1%	26.6%	3.8%	0.0%	0.0%	0.0%
90	96.8%	87.3%	50.8%	25.8%	1.2%	0.0%	0.0%	0.0%
Layer 4	Salinity (opt) greate	r than	Ī			1	
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	89.0%	81.8%	56.6%	31.7%	10.8%	1.8%	0.2%	0.0%
7	91.8%	84.2%	57.7%	32.3%	8.8%	1.0%	0.0%	0.0%
30	94.7%	87.4%	60.8%	31.3%	6.9%	0.0%	0.0%	0.0%
60	95.9%	87.8%	59.3%	29.2%	5.6%	0.0%	0.0%	0.0%
90	97.6%	89.2%	55.2%	28.2%	3.5%	0.0%	0.0%	0.0%
Layer 3	Salinity (opt) greate					1	
Layer 3 Moving Average Period (day)	Salinity (opt) greate 5		15	20	25	30	35
•	1		r than			25 2.2%	30 0.2%	
Moving Average Period (day)	3	5	r than	15	20			35
Moving Average Period (day) 1	3 89.8%	5 82.9%	r than 10 59.1%	15 34.1%	20 12.2%	2.2%	0.2%	35 0.0%
Moving Average Period (day) 1 7 30 60	3 89.8% 92.4% 95.3% 96.6%	5 82.9% 85.5% 89.3% 89.4%	r than 10 59.1% 60.1% 63.1% 62.6%	15 34.1% 34.5%	20 12.2% 9.7%	2.2% 1.0%	0.2%	35 0.0% 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30	3 89.8% 92.4% 95.3%	5 82.9% 85.5% 89.3%	r than 10 59.1% 60.1% 63.1%	15 34.1% 34.5% 33.1%	20 12.2% 9.7% 8.5%	2.2% 1.0% 0.0%	0.2% 0.0% 0.0%	35 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2	3 89.8% 92.4% 95.3% 96.6% 97.7%	5 82.9% 85.5% 89.3% 89.4%	r than 10 59.1% 60.1% 63.1% 62.6% 59.2%	15 34.1% 34.5% 33.1% 31.3%	20 12.2% 9.7% 8.5% 6.5%	2.2% 1.0% 0.0% 0.0%	0.2% 0.0% 0.0% 0.0%	35 0.0% 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90	3 89.8% 92.4% 95.3% 96.6% 97.7%	5 82.9% 85.5% 89.3% 89.4% 90.1%	r than 10 59.1% 60.1% 63.1% 62.6% 59.2%	15 34.1% 34.5% 33.1% 31.3%	20 12.2% 9.7% 8.5% 6.5%	2.2% 1.0% 0.0% 0.0%	0.2% 0.0% 0.0% 0.0%	35 0.0% 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1	3 89.8% 92.4% 95.3% 96.6% 97.7% Salinity (1 3 90.5%	5 82.9% 85.5% 89.3% 89.4% 90.1% opt) greate 5 83.8%	r than 10 59.1% 60.1% 63.1% 62.6% 59.2% r than 10 61.4%	15 34.1% 34.5% 33.1% 31.3% 29.8% 15 35.9%	20 12.2% 9.7% 8.5% 6.5% 5.4% 20 13.1%	2.2% 1.0% 0.0% 0.0% 0.0% 25 2.4%	0.2% 0.0% 0.0% 0.0% 0.0% 30 0.2%	35 0.0% 0.0% 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7	3 89.8% 92.4% 95.3% 96.6% 97.7% Salinity () 3 90.5% 92.7%	5 82.9% 85.5% 89.3% 89.4% 90.1% opt) greate 5 83.8% 86.6%	r than 10 59.1% 60.1% 63.1% 62.6% 59.2% r than 10 61.4% 61.6%	15 34.1% 34.5% 33.1% 31.3% 29.8%	20 12.2% 9.7% 8.5% 6.5% 5.4% 20 13.1% 11.5%	2.2% 1.0% 0.0% 0.0% 0.0% 25 2.4% 1.1%	0.2% 0.0% 0.0% 0.0% 0.0% 30 0.2% 0.0%	35 0.0% 0.0% 0.0% 0.0% 35 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1	3 89.8% 92.4% 95.3% 96.6% 97.7% Salinity (1 3 90.5%	5 82.9% 85.5% 89.3% 89.4% 90.1% opt) greate 5 83.8%	r than 10 59.1% 60.1% 63.1% 62.6% 59.2% r than 10 61.4%	15 34.1% 34.5% 33.1% 31.3% 29.8% 15 35.9%	20 12.2% 9.7% 8.5% 6.5% 5.4% 20 13.1%	2.2% 1.0% 0.0% 0.0% 0.0% 25 2.4%	0.2% 0.0% 0.0% 0.0% 0.0% 30 0.2%	35 0.0% 0.0% 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60	3 89.8% 92.4% 95.3% 96.6% 97.7% Salinity (p 3 90.5% 92.7% 95.6% 97.1%	5 82.9% 85.5% 89.3% 89.4% 90.1% opt) greate 5 83.8% 86.6% 90.3% 90.2%	r than 10 59.1% 60.1% 63.1% 62.6% 59.2% r than 10 61.4% 61.6%	15 34.1% 34.5% 33.1% 31.3% 29.8% 15 35.9% 35.9% 34.6% 33.3%	20 12.2% 9.7% 8.5% 6.5% 5.4% 20 13.1% 11.5% 9.3% 7.2%	2.2% 1.0% 0.0% 0.0% 0.0% 25 2.4% 1.1%	0.2% 0.0% 0.0% 0.0% 0.0% 30 0.2% 0.0% 0.0%	35 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90	3 89.8% 92.4% 95.3% 96.6% 97.7% Salinity (1 3 90.5% 92.7% 95.6% 97.1% 97.9%	5 82.9% 85.5% 89.3% 89.4% 90.1% opt) greate 5 83.8% 86.6% 90.3% 90.2% 90.8%	r than 10 59.1% 60.1% 63.1% 62.6% 59.2% r than 10 61.4% 64.6% 64.6% 64.6%	15 34.1% 34.5% 33.1% 31.3% 29.8% 15 35.9% 35.9% 34.6%	20 12.2% 9.7% 8.5% 6.5% 5.4% 20 13.1% 11.5% 9.3%	2.2% 1.0% 0.0% 0.0% 0.0% 25 2.4% 1.1% 0.0%	0.2% 0.0% 0.0% 0.0% 0.0% 30 0.2% 0.0% 0.0%	35 0.0% 0.0% 0.0% 0.0% 0.0% 35 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60	3 89.8% 92.4% 95.3% 96.6% 97.7% Salinity (1 3 90.5% 92.7% 95.6% 97.1% 97.9%	5 82.9% 85.5% 89.3% 89.4% 90.1% opt) greate 5 83.8% 86.6% 90.3% 90.2%	r than 10 59.1% 60.1% 63.1% 62.6% 59.2% r than 10 61.4% 61.6% 64.6% 64.6%	15 34.1% 34.5% 33.1% 31.3% 29.8% 15 35.9% 35.9% 34.6% 33.3%	20 12.2% 9.7% 8.5% 6.5% 5.4% 20 13.1% 11.5% 9.3% 7.2%	2.2% 1.0% 0.0% 0.0% 0.0% 25 2.4% 1.1% 0.0% 0.0%	0.2% 0.0% 0.0% 0.0% 0.0% 30 0.2% 0.0% 0.0%	35 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90	3 89.8% 92.4% 95.3% 96.6% 97.7% Salinity (1 3 90.5% 92.7% 95.6% 97.1% 97.9% Salinity (1	5 82.9% 85.5% 89.3% 89.4% 90.1% opt) greate 5 83.8% 86.6% 90.3% 90.2% 90.8% opt) greate	r than 10 59.1% 60.1% 63.1% 62.6% 59.2% r than 10 61.4% 64.6% 64.6% 64.5% r than 10	15 34.1% 34.5% 33.1% 31.3% 29.8% 15 35.9% 35.9% 34.6% 33.3% 30.9%	20 12.2% 9.7% 8.5% 6.5% 5.4% 20 13.1% 11.5% 9.3% 7.2% 6.9%	2.2% 1.0% 0.0% 0.0% 0.0% 25 2.4% 1.1% 0.0% 0.0% 25	0.2% 0.0% 0.0% 0.0% 0.0% 30 0.2% 0.0% 0.0% 0.0% 30 0.0%	35 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom)	3 89.8% 92.4% 95.3% 96.6% 97.7% Salinity () 3 90.5% 92.7% 95.6% 97.1% 97.9% Salinity () 3 90.9%	5 82.9% 85.5% 89.3% 89.4% 90.1% opt) greate 5 83.8% 86.6% 90.3% 90.2% 90.8% opt) greate 5 84.0%	r than 10 59.1% 60.1% 63.1% 62.6% 59.2% r than 10 61.4% 64.6% 64.6% 64.5% r than 10 62.4%	15 34.1% 34.5% 33.1% 31.3% 29.8% 15 35.9% 35.9% 34.6% 33.3% 30.9% 15 37.1%	20 12.2% 9.7% 8.5% 6.5% 5.4% 20 13.1% 11.5% 9.3% 7.2% 6.9% 20 14.3%	2.2% 1.0% 0.0% 0.0% 25 2.4% 1.1% 0.0% 0.0% 25 2.6%	0.2% 0.0% 0.0% 0.0% 0.0% 30 0.2% 0.0% 0.0% 0.0% 0.0% 0.0%	35 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day)	3 89.8% 92.4% 95.3% 96.6% 97.7% Salinity (3 90.5% 92.7% 95.6% 97.1% 97.9% Salinity (3 90.9%	5 82.9% 85.5% 89.3% 89.4% 90.1% opt) greate 5 83.8% 86.6% 90.3% 90.2% 90.8% opt) greate 5 84.0% 87.1%	r than 10 59.1% 60.1% 63.1% 62.6% 59.2% r than 10 61.4% 64.6% 64.6% 64.5% r than 10 62.4% 62.8%	15 34.1% 34.5% 33.1% 31.3% 29.8% 15 35.9% 35.9% 34.6% 33.3% 30.9% 15 37.1% 36.9%	20 12.2% 9.7% 8.5% 6.5% 5.4% 20 13.1% 11.5% 9.3% 7.2% 6.9% 20 14.3% 12.1%	2.2% 1.0% 0.0% 0.0% 0.0% 25 2.4% 1.1% 0.0% 0.0% 25 2.6% 1.1%	0.2% 0.0% 0.0% 0.0% 0.0% 30 0.2% 0.0% 0.0% 30 0.2% 0.0% 0.0%	35 0.0% 0.0% 0.0% 0.0% 0.0% 35 0.0% 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day)	3 89.8% 92.4% 95.3% 96.6% 97.7% Salinity () 3 90.5% 92.7% 95.6% 97.1% 97.9% Salinity () 3 90.9%	5 82.9% 85.5% 89.3% 89.4% 90.1% opt) greate 5 83.8% 86.6% 90.3% 90.2% 90.8% opt) greate 5 84.0%	r than 10 59.1% 60.1% 63.1% 62.6% 59.2% r than 10 61.4% 64.6% 64.6% 64.5% r than 10 62.4%	15 34.1% 34.5% 33.1% 31.3% 29.8% 15 35.9% 35.9% 34.6% 33.3% 30.9% 15 37.1%	20 12.2% 9.7% 8.5% 6.5% 5.4% 20 13.1% 11.5% 9.3% 7.2% 6.9% 20 14.3%	2.2% 1.0% 0.0% 0.0% 25 2.4% 1.1% 0.0% 0.0% 25 2.6%	0.2% 0.0% 0.0% 0.0% 0.0% 30 0.2% 0.0% 0.0% 0.0% 0.0% 0.0%	35 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day)	3 89.8% 92.4% 95.3% 96.6% 97.7% Salinity (3 90.5% 92.7% 95.6% 97.1% 97.9% Salinity (3 90.9%	5 82.9% 85.5% 89.3% 89.4% 90.1% opt) greate 5 83.8% 86.6% 90.3% 90.2% 90.8% opt) greate 5 84.0% 87.1%	r than 10 59.1% 60.1% 63.1% 62.6% 59.2% r than 10 61.4% 64.6% 64.6% 64.5% r than 10 62.4% 62.8%	15 34.1% 34.5% 33.1% 31.3% 29.8% 15 35.9% 35.9% 34.6% 33.3% 30.9% 15 37.1% 36.9%	20 12.2% 9.7% 8.5% 6.5% 5.4% 20 13.1% 11.5% 9.3% 7.2% 6.9% 20 14.3% 12.1%	2.2% 1.0% 0.0% 0.0% 0.0% 25 2.4% 1.1% 0.0% 0.0% 25 2.6% 1.1%	0.2% 0.0% 0.0% 0.0% 0.0% 30 0.2% 0.0% 0.0% 30 0.2% 0.0% 0.0%	35 0.0% 0.0% 0.0% 0.0% 0.0% 35 0.0% 0.0% 0.0% 0.0%

Table C.3 Percent of Time Model Results Exceeds Salinity Levels for Baseline at 40 ft (SAVPTLV Station)

Layer 6 (Top)	Salinity (p	pt) greater	than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	97.9%	91.5%	83.8%	67.2%	52.1%	26.6%	7.6%	1.4%
7	98.2%	94.7%	87.2%	68.2%	53.3%	26.0%	7.1%	0.8%
30	99.0%	96.7%	93.1%	70.8%	54.9%	26.5%	5.8%	0.0%
60	100.0%	98.9%	95.2%	75.8%	53.7%	24.9%	4.2%	0.0%
90	100.0%	99.6%	95.8%	79.2%	52.7%	24.5%	2.5%	0.0%
Layer 5	Salinity (p	pt) greater	than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	98.0%	91.5%	83.9%	67.9%	53.8%	27.7%	8.5%	1.6%
7	98.2%	94.7%	87.4%	69.2%	54.6%	28.1%	7.9%	0.9%
30	99.0%	97.0%	93.7%	71.6%	58.1%	27.4%	6.2%	0.0%
60	100.0%	99.0%	95.4%	77.3%	56.1%	26.4%	4.7%	0.0%
90	100.0%	100.0%	96.1%	80.2%	54.8%	25.7%	3.3%	0.0%
Layer 4	Salinity (p	pt) greater	than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	98.0%	91.6%	84.0%	68.4%	54.6%	28.5%	9.3%	1.7%
7	98.2%	94.8%	87.6%	69.8%	55.8%	29.5%	8.2%	1.0%
30	99.0%	97.3%	93.8%	72.0%	60.0%	28.1%	6.5%	0.0%
60	100.0%	99.0%	95.5%	78.1%	57.6%	27.4%	5.3%	0.0%
90	100.0%	100.0%	96.8%	81.3%	55.7%	26.5%	3.6%	0.0%
Layer 3	Salinity (p	pt) greater	than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	98.0%	91.7%	84.3%	68.8%	54.8%	29.1%	9.7%	1.8%
_								
7	98.2%	94.8%	88.0%	70.5%	56.4%	30.1%	8.4%	1.1%
30	98.2% 99.1%	94.8% 97.4%	88.0% 94.0%	70.5% 72.4%	56.4% 61.0%	30.1% 28.6%	8.4% 6.8%	1.1% 0.0%
30	99.1%	97.4%	94.0%	72.4%	61.0%	28.6%	6.8%	0.0%
30 60	99.1% 100.0% 100.0%	97.4% 99.1%	94.0% 95.6% 97.0%	72.4% 78.5%	61.0% 59.9%	28.6% 27.8%	6.8%	0.0%
30 60 90	99.1% 100.0% 100.0%	97.4% 99.1% 100.0%	94.0% 95.6% 97.0%	72.4% 78.5%	61.0% 59.9%	28.6% 27.8%	6.8%	0.0%
30 60 90 <i>Layer 2</i>	99.1% 100.0% 100.0% Salinity (p	97.4% 99.1% 100.0% pt) greater	94.0% 95.6% 97.0% than	72.4% 78.5% 81.6%	61.0% 59.9% 56.7%	28.6% 27.8% 27.1%	6.8% 6.0% 4.2%	0.0% 0.0% 0.0%
30 60 90 Layer 2 Moving Average Period (day)	99.1% 100.0% 100.0% Salinity (p	97.4% 99.1% 100.0% pt) greater 0.5	94.0% 95.6% 97.0% than 1	72.4% 78.5% 81.6%	61.0% 59.9% 56.7%	28.6% 27.8% 27.1%	6.8% 6.0% 4.2%	0.0% 0.0% 0.0%
30 60 90 Layer 2 Moving Average Period (day) 1	99.1% 100.0% 100.0% Salinity (p 0.25 98.0%	97.4% 99.1% 100.0% pt) greater 0.5 91.7%	94.0% 95.6% 97.0% than 1 84.4%	72.4% 78.5% 81.6% 3 68.9%	61.0% 59.9% 56.7% 5 55.1%	28.6% 27.8% 27.1% 10 29.5%	6.8% 6.0% 4.2% 15 9.9%	0.0% 0.0% 0.0% 20 1.9%
30 60 90 <i>Layer 2</i> Moving Average Period (day) 1 7	99.1% 100.0% 100.0% Salinity (p 0.25 98.0% 98.2%	97.4% 99.1% 100.0% pt) greater 0.5 91.7% 94.9%	94.0% 95.6% 97.0% than 1 84.4% 88.0%	72.4% 78.5% 81.6% 3 68.9% 70.8%	61.0% 59.9% 56.7% 5 55.1% 56.8%	28.6% 27.8% 27.1% 10 29.5% 30.5%	6.8% 6.0% 4.2% 15 9.9% 8.9%	0.0% 0.0% 0.0% 20 1.9% 1.2%
30 60 90 <i>Layer 2</i> Moving Average Period (day) 1 7	99.1% 100.0% 100.0% Salinity (p 0.25 98.0% 98.2% 99.1%	97.4% 99.1% 100.0% pt) greater 0.5 91.7% 94.9% 97.4%	94.0% 95.6% 97.0% than 1 84.4% 88.0% 94.1%	72.4% 78.5% 81.6% 3 68.9% 70.8% 72.6%	61.0% 59.9% 56.7% 5 55.1% 56.8% 61.6%	28.6% 27.8% 27.1% 10 29.5% 30.5% 28.9%	6.8% 6.0% 4.2% 15 9.9% 8.9% 6.9%	0.0% 0.0% 0.0% 20 1.9% 1.2% 0.0%
30 60 90 <i>Layer 2</i> Moving Average Period (day) 1 7 30 60	99.1% 100.0% 100.0% Salinity (p 0.25 98.0% 98.2% 99.1% 100.0%	97.4% 99.1% 100.0% pt) greater 0.5 91.7% 94.9% 97.4% 99.1%	94.0% 95.6% 97.0% than 1 84.4% 88.0% 94.1% 95.6% 97.5%	72.4% 78.5% 81.6% 3 68.9% 70.8% 72.6% 78.8%	61.0% 59.9% 56.7% 5 55.1% 56.8% 61.6% 60.5%	28.6% 27.8% 27.1% 10 29.5% 30.5% 28.9% 28.1%	6.8% 6.0% 4.2% 15 9.9% 8.9% 6.9% 6.2%	0.0% 0.0% 0.0% 20 1.9% 1.2% 0.0% 0.0%
30 60 90 <i>Layer 2</i> Moving Average Period (day) 1 7 30 60	99.1% 100.0% 100.0% Salinity (p 0.25 98.0% 98.2% 99.1% 100.0%	97.4% 99.1% 100.0% pt) greater 0.5 91.7% 94.9% 97.4% 99.1% 100.0%	94.0% 95.6% 97.0% than 1 84.4% 88.0% 94.1% 95.6% 97.5%	72.4% 78.5% 81.6% 3 68.9% 70.8% 72.6% 78.8%	61.0% 59.9% 56.7% 5 55.1% 56.8% 61.6% 60.5%	28.6% 27.8% 27.1% 10 29.5% 30.5% 28.9% 28.1%	6.8% 6.0% 4.2% 15 9.9% 8.9% 6.9% 6.2%	0.0% 0.0% 0.0% 20 1.9% 1.2% 0.0%
30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom)	99.1% 100.0% 100.0% Salinity (p 0.25 98.0% 98.2% 99.1% 100.0% Salinity (p	97.4% 99.1% 100.0% pt) greater 0.5 91.7% 94.9% 97.4% 99.1% 100.0% pt) greater	94.0% 95.6% 97.0% than 1 84.4% 88.0% 94.1% 95.6% 97.5%	72.4% 78.5% 81.6% 3 68.9% 70.8% 72.6% 78.8% 81.8%	61.0% 59.9% 56.7% 5 55.1% 56.8% 61.6% 60.5% 57.4%	28.6% 27.8% 27.1% 10 29.5% 30.5% 28.9% 28.1% 27.3%	6.8% 6.0% 4.2% 15 9.9% 8.9% 6.9% 6.2% 4.6%	0.0% 0.0% 0.0% 20 1.9% 1.2% 0.0% 0.0%
30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day)	99.1% 100.0% 100.0% Salinity (p 0.25 98.0% 98.2% 99.1% 100.0% Salinity (p	97.4% 99.1% 100.0% pt) greater 0.5 91.7% 94.9% 97.4% 99.1% 100.0% pt) greater	94.0% 95.6% 97.0% than 1 84.4% 88.0% 94.1% 95.6% 97.5% than 1	72.4% 78.5% 81.6% 3 68.9% 70.8% 72.6% 78.8% 81.8%	61.0% 59.9% 56.7% 5 55.1% 56.8% 61.6% 60.5% 57.4%	28.6% 27.8% 27.1% 10 29.5% 30.5% 28.9% 28.1% 27.3%	6.8% 6.0% 4.2% 15 9.9% 8.9% 6.9% 6.2% 4.6%	0.0% 0.0% 0.0% 20 1.9% 1.2% 0.0% 0.0% 20
30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day)	99.1% 100.0% 100.0% Salinity (p 0.25 98.0% 99.1% 100.0% Salinity (p 0.25 98.0%	97.4% 99.1% 100.0% pt) greater 0.5 91.7% 94.9% 97.4% 99.1% 100.0% pt) greater 0.5 91.7%	94.0% 95.6% 97.0% than 1 84.4% 88.0% 94.1% 95.6% 97.5% than 1 84.4%	72.4% 78.5% 81.6% 3 68.9% 70.8% 72.6% 78.8% 81.8% 3 68.9%	61.0% 59.9% 56.7% 5 55.1% 56.8% 61.6% 60.5% 57.4% 5 55.2%	28.6% 27.8% 27.1% 10 29.5% 30.5% 28.9% 28.1% 27.3% 10 29.6%	6.8% 6.0% 4.2% 15 9.9% 8.9% 6.2% 4.6% 15	0.0% 0.0% 0.0% 20 1.9% 1.2% 0.0% 0.0% 20 2.0%
30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day) 1 7	99.1% 100.0% 100.0% Salinity (p 0.25 98.0% 98.2% 100.0% Salinity (p 0.25 98.0% 99.1%	97.4% 99.1% 100.0% pt) greater 0.5 91.7% 94.9% 97.4% 99.1% 100.0% pt) greater 0.5 91.7% 94.9%	94.0% 95.6% 97.0% than 1 84.4% 88.0% 94.1% 95.6% 97.5% than 1 84.4% 88.0%	72.4% 78.5% 81.6% 3 68.9% 70.8% 72.6% 81.8% 3 68.9% 70.8%	5.1% 56.8% 56.8% 61.6% 57.4% 5.55.2% 56.9%	28.6% 27.8% 27.1% 10 29.5% 30.5% 28.9% 27.3% 10 29.6% 30.5%	6.8% 6.0% 4.2% 15 9.9% 8.9% 6.9% 4.6% 15 10.0% 8.9%	0.0% 0.0% 0.0% 20 1.9% 1.2% 0.0% 0.0% 20 2.0% 1.2%

Table C.4 Percent of Time Model Results Exceeds Salinity Levels for Baseline at 40 ft (JAXSJR40 Station)

Layer 6 (Top)	Salinity (p	ot) greater	than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	97.7%	88.6%	78.9%	58.2%	44.4%	18.2%	3.1%	0.3%
7	98.1%	91.3%	81.2%	58.9%	43.5%	18.3%	2.5%	0.0%
30	98.6%	95.8%	88.3%	64.5%	43.2%	17.2%	1.8%	0.0%
60	99.7%	96.9%	87.7%	65.6%	41.8%	17.9%	0.2%	0.0%
90	100.0%	98.2%	89.6%	66.2%	44.5%	17.1%	0.0%	0.0%
Layer 5	Salinity (p	ot) greater	than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	97.7%	88.7%	79.3%	60.0%	46.6%	21.9%	5.2%	0.7%
7	98.1%	91.5%	81.9%	61.1%	46.3%	21.3%	4.3%	0.4%
30	98.6%	95.9%	89.2%	66.3%	45.9%	21.6%	3.8%	0.0%
60	99.9%	97.3%	88.4%	68.8%	44.8%	20.7%	2.5%	0.0%
90	100.0%	98.2%	90.6%	71.8%	47.0%	19.3%	0.0%	0.0%
Layer 4	Salinity (pլ	ot) greater	than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	97.7%	88.8%	79.9%	60.9%	48.2%	24.6%	6.8%	1.0%
7	98.1%	91.9%	82.6%	62.5%	48.3%	23.8%	6.0%	0.6%
30	98.6%	96.0%	89.7%	67.4%	47.9%	24.1%	4.8%	0.0%
60	99.9%	97.8%	89.3%	70.3%	47.9%	22.6%	3.5%	0.0%
90	100.0%	98.3%	90.8%	73.2%	49.2%	21.9%	0.5%	0.0%
Layer 3	Salinity (p	ot) greater	than					
Moving Average Deried (dev)								
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.25 97.7%	0.5 89.1%	1 80.3%	3 61.8%	5 49.2%	10 26.0%	15 8.0%	20 1.6%
1	97.7%	89.1%	80.3%	61.8%	49.2%	26.0%	8.0%	1.6%
7	97.7% 98.1%	89.1% 92.0%	80.3% 83.3%	61.8% 63.5%	49.2% 49.7%	26.0% 26.1%	8.0% 6.9%	1.6% 0.9%
1 7 30	97.7% 98.1% 98.6%	89.1% 92.0% 96.0%	80.3% 83.3% 90.1%	61.8% 63.5% 68.2%	49.2% 49.7% 50.0%	26.0% 26.1% 25.8%	8.0% 6.9% 5.8%	1.6% 0.9% 0.0%
1 7 30 60	97.7% 98.1% 98.6% 99.9%	89.1% 92.0% 96.0% 98.2% 98.3%	80.3% 83.3% 90.1% 90.5% 91.1%	61.8% 63.5% 68.2% 72.6%	49.2% 49.7% 50.0% 49.3%	26.0% 26.1% 25.8% 24.3%	8.0% 6.9% 5.8% 4.1%	1.6% 0.9% 0.0% 0.0%
1 7 30 60 90	97.7% 98.1% 98.6% 99.9% 100.0%	89.1% 92.0% 96.0% 98.2% 98.3%	80.3% 83.3% 90.1% 90.5% 91.1%	61.8% 63.5% 68.2% 72.6%	49.2% 49.7% 50.0% 49.3%	26.0% 26.1% 25.8% 24.3%	8.0% 6.9% 5.8% 4.1%	1.6% 0.9% 0.0% 0.0%
1 7 30 60 90 Layer 2	97.7% 98.1% 98.6% 99.9% 100.0% Salinity (pp	89.1% 92.0% 96.0% 98.2% 98.3% ot) greater	80.3% 83.3% 90.1% 90.5% 91.1%	61.8% 63.5% 68.2% 72.6% 74.9%	49.2% 49.7% 50.0% 49.3% 50.2%	26.0% 26.1% 25.8% 24.3% 24.0%	8.0% 6.9% 5.8% 4.1% 2.1%	1.6% 0.9% 0.0% 0.0% 0.0%
1 7 30 60 90 <i>Layer 2</i> Moving Average Period (day)	97.7% 98.1% 98.6% 99.9% 100.0% Salinity (pp	89.1% 92.0% 96.0% 98.2% 98.3% ot) greater 0.5	80.3% 83.3% 90.1% 90.5% 91.1% than	61.8% 63.5% 68.2% 72.6% 74.9%	49.2% 49.7% 50.0% 49.3% 50.2%	26.0% 26.1% 25.8% 24.3% 24.0%	8.0% 6.9% 5.8% 4.1% 2.1%	1.6% 0.9% 0.0% 0.0% 0.0%
1 7 30 60 90 <i>Layer 2</i> Moving Average Period (day)	97.7% 98.1% 98.6% 99.9% 100.0% Salinity (pp 0.25 97.7%	89.1% 92.0% 96.0% 98.2% 98.3% ot) greater 0.5 89.1%	80.3% 83.3% 90.1% 90.5% 91.1% than 1 80.8%	61.8% 63.5% 68.2% 72.6% 74.9% 3 62.9%	49.2% 49.7% 50.0% 49.3% 50.2% 5	26.0% 26.1% 25.8% 24.3% 24.0% 10 27.0%	8.0% 6.9% 5.8% 4.1% 2.1% 15 9.1%	1.6% 0.9% 0.0% 0.0% 0.0% 20 1.9%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7	97.7% 98.1% 98.6% 99.9% 100.0% Salinity (pp 0.25 97.7% 98.1%	89.1% 92.0% 96.0% 98.2% 98.3% ot) greater 0.5 89.1% 92.1%	80.3% 83.3% 90.1% 90.5% 91.1% than 1 80.8% 83.9%	61.8% 63.5% 68.2% 72.6% 74.9% 3 62.9% 64.4%	49.2% 49.7% 50.0% 49.3% 50.2% 5 50.2%	26.0% 26.1% 25.8% 24.3% 24.0% 10 27.0% 28.1%	8.0% 6.9% 5.8% 4.1% 2.1% 15 9.1% 8.0%	1.6% 0.9% 0.0% 0.0% 0.0% 20 1.9% 1.0%
1 7 30 60 90 <i>Layer 2</i> Moving Average Period (day) 1 7 30	97.7% 98.1% 98.6% 99.9% 100.0% Salinity (pp 0.25 97.7% 98.1% 98.6%	89.1% 92.0% 96.0% 98.2% 98.3% ot) greater 0.5 89.1% 92.1% 96.0%	80.3% 83.3% 90.1% 90.5% 91.1% than 1 80.8% 83.9% 90.5%	61.8% 63.5% 68.2% 72.6% 74.9% 3 62.9% 64.4% 69.0%	49.2% 49.7% 50.0% 49.3% 50.2% 50.2% 50.9% 52.3%	26.0% 26.1% 25.8% 24.3% 24.0% 10 27.0% 28.1% 27.2%	8.0% 6.9% 5.8% 4.1% 2.1% 15 9.1% 8.0% 6.3%	1.6% 0.9% 0.0% 0.0% 20 1.9% 1.0% 0.0%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60	97.7% 98.1% 98.6% 99.9% 100.0% Salinity (pp 0.25 97.7% 98.1% 98.6% 100.0%	89.1% 92.0% 96.0% 98.2% 98.3% ot) greater 0.5 89.1% 92.1% 96.0% 98.5% 98.3%	80.3% 83.3% 90.1% 90.5% 91.1% than 1 80.8% 83.9% 90.5% 91.6% 92.0%	61.8% 63.5% 68.2% 72.6% 74.9% 3 62.9% 64.4% 69.0% 73.6%	49.2% 49.7% 50.0% 49.3% 50.2% 50.2% 50.9% 52.3% 51.9%	26.0% 26.1% 25.8% 24.3% 24.0% 10 27.0% 28.1% 27.2% 26.4%	8.0% 6.9% 5.8% 4.1% 2.1% 15 9.1% 8.0% 6.3% 4.8%	1.6% 0.9% 0.0% 0.0% 0.0% 20 1.9% 1.0% 0.0%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90	97.7% 98.1% 98.6% 99.9% 100.0% Salinity (pp 0.25 97.7% 98.1% 98.6% 100.0%	89.1% 92.0% 96.0% 98.2% 98.3% ot) greater 0.5 89.1% 92.1% 96.0% 98.5% 98.3%	80.3% 83.3% 90.1% 90.5% 91.1% than 1 80.8% 83.9% 90.5% 91.6% 92.0%	61.8% 63.5% 68.2% 72.6% 74.9% 3 62.9% 64.4% 69.0% 73.6%	49.2% 49.7% 50.0% 49.3% 50.2% 50.2% 50.9% 52.3% 51.9%	26.0% 26.1% 25.8% 24.3% 24.0% 10 27.0% 28.1% 27.2% 26.4%	8.0% 6.9% 5.8% 4.1% 2.1% 15 9.1% 8.0% 6.3% 4.8%	1.6% 0.9% 0.0% 0.0% 0.0% 20 1.9% 1.0% 0.0%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom)	97.7% 98.1% 98.6% 99.9% 100.0% Salinity (pp 0.25 97.7% 98.1% 98.6% 100.0% Salinity (pp	89.1% 92.0% 96.0% 98.2% 98.3% ot) greater 0.5 89.1% 92.1% 96.0% 98.5% 98.3% ot) greater	80.3% 83.3% 90.1% 90.5% 91.1% than 1 80.8% 83.9% 90.5% 91.6% 92.0%	61.8% 63.5% 68.2% 72.6% 74.9% 3 62.9% 64.4% 69.0% 73.6% 76.9%	49.2% 49.7% 50.0% 49.3% 50.2% 50.2% 50.9% 52.3% 51.9%	26.0% 26.1% 25.8% 24.3% 24.0% 10 27.0% 28.1% 27.2% 26.4% 25.5%	8.0% 6.9% 5.8% 4.1% 2.1% 15 9.1% 8.0% 6.3% 4.8% 3.4%	1.6% 0.9% 0.0% 0.0% 20 1.9% 1.0% 0.0% 0.0%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day)	97.7% 98.1% 98.6% 99.9% 100.0% Salinity (pp 0.25 97.7% 98.1% 98.6% 100.0% Salinity (pp 0.25	89.1% 92.0% 96.0% 98.2% 98.3% ot) greater 0.5 89.1% 92.1% 96.0% 98.5% 98.3% ot) greater	80.3% 83.3% 90.1% 90.5% 91.1% than 1 80.8% 83.9% 90.5% 91.6% 92.0% than 1	61.8% 63.5% 68.2% 72.6% 74.9% 3 62.9% 64.4% 69.0% 73.6% 76.9%	49.2% 49.7% 50.0% 49.3% 50.2% 50.2% 50.9% 52.3% 51.4%	26.0% 26.1% 25.8% 24.3% 24.0% 10 27.0% 28.1% 27.2% 26.4% 25.5%	8.0% 6.9% 5.8% 4.1% 2.1% 15 9.1% 8.0% 6.3% 4.8% 3.4%	1.6% 0.9% 0.0% 0.0% 0.0% 20 1.9% 0.0% 0.0% 0.0% 20 20
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day)	97.7% 98.1% 98.6% 99.9% 100.0% Salinity (pp 0.25 97.7% 98.6% 100.0% Salinity (pp 0.25 97.7%	89.1% 92.0% 96.0% 98.2% 98.3% ot) greater 0.5 89.1% 96.0% 98.5% 98.3% ot) greater 0.5 89.1%	80.3% 83.3% 90.1% 90.5% 91.1% than 1 80.8% 83.9% 90.5% 91.6% 92.0% than 1 80.8%	61.8% 63.5% 68.2% 72.6% 74.9% 3 62.9% 64.4% 69.0% 73.6% 76.9%	49.2% 49.7% 50.0% 49.3% 50.2% 50.2% 50.9% 52.3% 51.9% 51.4%	26.0% 26.1% 25.8% 24.3% 24.0% 10 27.0% 28.1% 26.4% 25.5% 10 28.1%	8.0% 6.9% 5.8% 4.1% 2.1% 15 9.1% 8.0% 6.3% 4.8% 3.4% 15 9.9%	1.6% 0.9% 0.0% 0.0% 20 1.9% 0.0% 0.0% 220 2.4%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day) 1 7	97.7% 98.1% 98.6% 99.9% 100.0% Salinity (pp 0.25 97.7% 98.1% 100.0% Salinity (pp 0.25 97.7% 98.1%	89.1% 92.0% 96.0% 98.2% 98.3% ot) greater 0.5 89.1% 96.0% 98.5% 98.3% ot) greater 0.5 89.1%	80.3% 83.3% 90.1% 90.5% 91.1% than 1 80.8% 83.9% 90.5% 91.6% 92.0% than 1 80.8% 83.9%	61.8% 63.5% 68.2% 72.6% 74.9% 3 62.9% 64.4% 69.0% 73.6% 76.9% 3 63.7% 65.4%	49.2% 49.7% 50.0% 49.3% 50.2% 5 50.2% 50.9% 52.3% 51.4% 5 51.0% 52.2%	26.0% 26.1% 25.8% 24.3% 24.0% 10 27.0% 28.1% 27.2% 26.4% 25.5% 10 28.1% 29.4%	8.0% 6.9% 5.8% 4.1% 2.1% 15 9.1% 8.0% 6.3% 4.8% 3.4% 15 9.9% 8.8%	1.6% 0.9% 0.0% 0.0% 0.0% 20 1.9% 0.0% 0.0% 0.0% 0.0% 1.2%

Table C.5 Percent of Time Model Results Exceeds Salinity Levels for Baseline at 40 ft (SAVBOLS Station)

Layer 6 (Top)	Salinity (p	opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	97.4%	81.7%	69.1%	49.4%	36.0%	12.0%	1.6%	0.0%
7	97.5%	83.5%	71.8%	49.7%	36.4%	11.3%	1.2%	0.0%
30	98.1%	90.4%	74.6%	49.1%	34.8%	10.9%	0.0%	0.0%
60	99.0%	93.2%	81.1%	49.8%	35.3%	9.8%	0.0%	0.0%
90	99.9%	93.4%	86.2%	50.8%	33.5%	10.6%	0.0%	0.0%
Layer 5	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	97.4%	81.7%	69.2%	49.6%	36.6%	12.4%	1.8%	0.1%
7	97.5%	83.5%	71.8%	50.1%	36.8%	11.5%	1.3%	0.0%
30	98.1%	90.6%	74.8%	49.9%	35.2%	11.2%	0.1%	0.0%
60	99.0%	93.2%	81.3%	50.2%	35.7%	10.0%	0.0%	0.0%
90	99.9%	93.7%	86.2%	51.0%	33.9%	11.0%	0.0%	0.0%
Layer 4	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	97.4%	81.8%	69.3%	50.0%	36.9%	12.7%	2.1%	0.2%
7	97.5%	83.5%	71.9%	50.5%	37.3%	11.9%	1.5%	0.0%
30	98.1%	90.6%	74.9%	50.7%	35.5%	11.4%	0.2%	0.0%
60	99.0%	93.2%	81.3%	50.6%	36.0%	10.3%	0.0%	0.0%
90	99.9%	93.8%	86.3%	51.2%	34.3%	11.4%	0.0%	0.0%
Layer 3	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	97.4%	81.8%	69.4%	50.3%	37.2%	13.2%	2.3%	0.2%
7	97.5%	83.5%	72.0%	50.8%	37.5%	12.4%	1.6%	0.0%
30	98.1%	90.6%	75.0%	51.0%	35.9%	11.6%	0.3%	0.0%
60	99.0%	93.2%	81.4%	51.7%	36.2%	10.5%	0.0%	0.0%
90	99.9%	93.9%	86.4%	52.1%	34.6%	11.7%	0.0%	0.0%
Layer 2	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	97.4%	81.8%	69.4%	50.3%	37.5%	13.3%	2.4%	0.2%
7	97.5%	83.5%	72.1%	51.2%	37.7%	12.7%	1.7%	0.0%
30	98.1%	90.7%	75.0%	51.3%	36.2%	12.3%	0.4%	0.0%
60	99.0%	93.2%	81.5%	52.3%	36.5%	10.7%	0.0%	0.0%
90	99.9%	93.9%	86.5%	52.7%	35.0%	11.9%	0.0%	0.0%
Layer 1 (Bottom)	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	97.4%	81.9%	69.4%	50.5%	37.7%	13.7%	2.8%	0.2%
7	97.5%	83.5%	72.1%	51.5%	37.8%	13.0%	1.9%	0.0%
30	98.1%	90.7%	75.0%	51.6%	36.4%	12.9%	0.7%	0.0%
60	99.0%	93.3%	81.5%	52.9%	36.8%	11.4%	0.0%	0.0%
90	99.9%	94.0%	86.5%	52.9%	35.2%	12.1%	0.0%	0.0%

Table C.6 Percent of Time Model Results Exceeds Salinity Levels for Baseline at 40 ft (Buckman Bridge Station)

Layer 6 (Top)	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	97.0%	73.2%	57.0%	37.7%	26.2%	6.5%	0.3%	0.0%
7	97.3%	76.4%	58.7%	37.7%	26.6%	6.4%	0.0%	0.0%
30	97.8%	80.2%	66.7%	36.6%	26.6%	5.2%	0.0%	0.0%
60	98.1%	84.4%	71.5%	37.5%	26.1%	3.7%	0.0%	0.0%
90	98.8%	88.2%	74.7%	37.3%	26.4%	1.0%	0.0%	0.0%
Layer 5	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	97.0%	73.2%	57.7%	40.1%	30.5%	9.2%	0.9%	0.0%
7	97.3%	76.5%	60.0%	40.1%	29.9%	9.1%	0.8%	0.0%
30	97.8%	80.4%	68.2%	39.6%	29.0%	7.7%	0.0%	0.0%
60	98.2%	84.5%	73.7%	40.3%	29.0%	6.5%	0.0%	0.0%
90	98.9%	88.7%	76.2%	42.2%	29.0%	5.5%	0.0%	0.0%
Layer 4	Salinity (opt) greate	r than	ı		ı	T	ı
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	97.0%	73.2%	58.1%	42.5%	32.6%	11.3%	1.7%	0.1%
7	97.3%	76.6%	60.8%	42.0%	32.8%	10.9%	1.4%	0.0%
30	97.8%	80.9%	69.0%	43.4%	32.1%	10.2%	0.1%	0.0%
60	98.2%	84.8%	75.5%	42.1%	32.0%	8.3%	0.0%	0.0%
90	98.9%	88.9%	79.1%	45.5%	30.9%	9.2%	0.0%	0.0%
Layer 3	Salinity (opt) greate	r than					
		1 , 0		ı		1	1	ı
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.25 97.0%		I	3 43.9%	5 34.5%	10 13.6%	15 2.9%	0.4%
		0.5	1					
1	97.0%	0.5 73.2%	1 58.2%	43.9%	34.5%	13.6%	2.9%	0.4%
1 7	97.0% 97.3%	0.5 73.2% 76.6% 81.1% 84.9%	1 58.2% 61.1%	43.9% 44.2%	34.5% 34.5%	13.6% 13.3%	2.9% 2.1%	0.4% 0.1%
1 7 30	97.0% 97.3% 97.8%	0.5 73.2% 76.6% 81.1%	1 58.2% 61.1% 69.7%	43.9% 44.2% 45.2%	34.5% 34.5% 33.9%	13.6% 13.3% 12.2%	2.9% 2.1% 1.4%	0.4% 0.1% 0.0%
1 7 30 60 90 Layer 2	97.0% 97.3% 97.8% 98.2% 98.9%	0.5 73.2% 76.6% 81.1% 84.9% 89.1% opt) greate	1 58.2% 61.1% 69.7% 77.0% 80.9% r than	43.9% 44.2% 45.2% 43.7% 47.0%	34.5% 34.5% 33.9% 34.5% 32.5%	13.6% 13.3% 12.2% 11.9%	2.9% 2.1% 1.4% 0.0% 0.0%	0.4% 0.1% 0.0% 0.0%
1 7 30 60 90 <i>Layer 2</i> Moving Average Period (day)	97.0% 97.3% 97.8% 98.2% 98.9% Salinity (p	0.5 73.2% 76.6% 81.1% 84.9% 89.1% opt) greate 0.5	1 58.2% 61.1% 69.7% 77.0% 80.9% r than 1	43.9% 44.2% 45.2% 43.7% 47.0%	34.5% 34.5% 33.9% 34.5% 32.5%	13.6% 13.3% 12.2% 11.9% 11.8%	2.9% 2.1% 1.4% 0.0% 0.0%	0.4% 0.1% 0.0% 0.0% 0.0%
1 7 30 60 90 <i>Layer 2</i> Moving Average Period (day)	97.0% 97.3% 97.8% 98.2% 98.9% Salinity (p 0.25 97.0%	0.5 73.2% 76.6% 81.1% 84.9% 89.1% ppt) greate 0.5 73.2%	1 58.2% 61.1% 69.7% 77.0% 80.9% r than 1 58.2%	43.9% 44.2% 45.2% 43.7% 47.0% 3 44.8%	34.5% 34.5% 33.9% 34.5% 32.5% 5 36.3%	13.6% 13.3% 12.2% 11.9% 11.8% 10 16.5%	2.9% 2.1% 1.4% 0.0% 0.0% 15 4.0%	0.4% 0.1% 0.0% 0.0% 0.0% 20 0.5%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7	97.0% 97.3% 97.8% 98.2% 98.9% Salinity (p	0.5 73.2% 76.6% 81.1% 84.9% 89.1% opt) greate 0.5	1 58.2% 61.1% 69.7% 77.0% 80.9% r than 1	43.9% 44.2% 45.2% 43.7% 47.0%	34.5% 34.5% 33.9% 34.5% 32.5% 5 36.3% 36.3%	13.6% 13.3% 12.2% 11.9% 11.8%	2.9% 2.1% 1.4% 0.0% 0.0%	0.4% 0.1% 0.0% 0.0% 0.0%
1 7 30 60 90 <i>Layer 2</i> Moving Average Period (day)	97.0% 97.3% 97.8% 98.2% 98.9% Salinity (p 0.25 97.0%	0.5 73.2% 76.6% 81.1% 84.9% 89.1% ppt) greate 0.5 73.2%	1 58.2% 61.1% 69.7% 77.0% 80.9% r than 1 58.2%	43.9% 44.2% 45.2% 43.7% 47.0% 3 44.8%	34.5% 34.5% 33.9% 34.5% 32.5% 5 36.3%	13.6% 13.3% 12.2% 11.9% 11.8% 10 16.5%	2.9% 2.1% 1.4% 0.0% 0.0% 15 4.0%	0.4% 0.1% 0.0% 0.0% 0.0% 20 0.5%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60	97.0% 97.3% 97.8% 98.2% 98.9% Salinity (p 0.25 97.0% 97.3% 97.8% 98.2%	0.5 73.2% 76.6% 81.1% 84.9% 89.1% opt) greate 0.5 73.2% 76.6% 81.2% 85.0%	1 58.2% 61.1% 69.7% 77.0% 80.9% r than 1 58.2% 61.6%	43.9% 44.2% 45.2% 43.7% 47.0% 3 44.8% 45.5%	34.5% 34.5% 33.9% 34.5% 32.5% 5 36.3% 36.3%	13.6% 13.3% 12.2% 11.9% 11.8% 10 16.5% 16.1%	2.9% 2.1% 1.4% 0.0% 0.0% 15 4.0% 3.2%	0.4% 0.1% 0.0% 0.0% 0.0% 20 0.5% 0.5% 0.0%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90	97.0% 97.3% 97.8% 98.2% 98.9% Salinity (p 0.25 97.0% 97.3% 97.8% 98.2% 98.9%	0.5 73.2% 76.6% 81.1% 84.9% 89.1% ppt) greate 0.5 73.2% 76.6% 81.2% 85.0% 89.1%	1 58.2% 61.1% 69.7% 77.0% 80.9% r than 1 58.2% 61.6% 70.1% 77.6% 81.9%	43.9% 44.2% 45.2% 43.7% 47.0% 3 44.8% 45.5% 46.6%	34.5% 34.5% 33.9% 34.5% 32.5% 5 36.3% 36.3% 35.4%	13.6% 13.3% 12.2% 11.9% 11.8% 10 16.5% 16.1% 15.0%	2.9% 2.1% 1.4% 0.0% 0.0% 15 4.0% 3.2% 1.7%	0.4% 0.1% 0.0% 0.0% 0.0% 20 0.5% 0.5% 0.0%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom)	97.0% 97.3% 97.8% 98.2% 98.9% Salinity (p 0.25 97.0% 97.3% 97.8% 98.2% 98.9% Salinity (p	0.5 73.2% 76.6% 81.1% 84.9% 89.1% opt) greate 0.5 73.2% 76.6% 81.2% 85.0% 89.1% opt) greate	1 58.2% 61.1% 69.7% 77.0% 80.9% r than 1 58.2% 61.6% 70.1% 77.6% 81.9%	43.9% 44.2% 45.2% 43.7% 47.0% 3 44.8% 45.5% 46.6% 45.8% 48.4%	34.5% 34.5% 33.9% 34.5% 32.5% 5 36.3% 36.3% 35.4% 35.9% 34.3%	13.6% 13.3% 12.2% 11.9% 11.8% 10 16.5% 16.1% 15.0% 14.3%	2.9% 2.1% 1.4% 0.0% 0.0% 15 4.0% 3.2% 1.7% 0.2%	0.4% 0.1% 0.0% 0.0% 0.0% 20 0.5% 0.5% 0.0% 0.0%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90	97.0% 97.3% 97.8% 98.2% 98.9% Salinity (p 0.25 97.0% 97.3% 97.8% 98.2% 98.9%	0.5 73.2% 76.6% 81.1% 84.9% 89.1% ppt) greate 0.5 73.2% 76.6% 81.2% 85.0% 89.1%	1 58.2% 61.1% 69.7% 77.0% 80.9% r than 1 58.2% 61.6% 70.1% 77.6% 81.9%	43.9% 44.2% 45.2% 43.7% 47.0% 3 44.8% 45.5% 46.6% 45.8%	34.5% 34.5% 33.9% 34.5% 32.5% 5 36.3% 36.3% 35.4% 35.9%	13.6% 13.3% 12.2% 11.9% 11.8% 10 16.5% 16.1% 15.0%	2.9% 2.1% 1.4% 0.0% 0.0% 15 4.0% 3.2% 1.7% 0.2%	0.4% 0.1% 0.0% 0.0% 0.0% 20 0.5% 0.5% 0.0%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day)	97.0% 97.3% 97.8% 98.2% 98.9% Salinity (p 0.25 97.0% 97.3% 97.8% 98.2% 98.9% Salinity (p	0.5 73.2% 76.6% 81.1% 84.9% 89.1% opt) greate 0.5 73.2% 76.6% 81.2% 85.0% 89.1% opt) greate	1 58.2% 61.1% 69.7% 77.0% 80.9% r than 1 58.2% 61.6% 70.1% 77.6% 81.9% r than	43.9% 44.2% 45.2% 43.7% 47.0% 3 44.8% 45.5% 46.6% 45.8% 48.4%	34.5% 34.5% 33.9% 34.5% 32.5% 5 36.3% 36.3% 35.4% 35.9% 34.3%	13.6% 13.3% 12.2% 11.9% 11.8% 10 16.5% 16.1% 15.0% 14.3%	2.9% 2.1% 1.4% 0.0% 0.0% 15 4.0% 3.2% 1.7% 0.2% 0.0%	0.4% 0.1% 0.0% 0.0% 0.0% 20 0.5% 0.5% 0.0% 0.0%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day)	97.0% 97.3% 97.8% 98.2% 98.9% Salinity (p 0.25 97.0% 97.3% 98.2% 98.9% Salinity (p 0.25 97.0%	0.5 73.2% 76.6% 81.1% 84.9% 89.1% ppt) greate 0.5 73.2% 76.6% 81.2% 85.0% 89.1% ppt) greate 0.5 73.2% 76.6%	1 58.2% 61.1% 69.7% 77.0% 80.9% r than 1 58.2% 61.6% 70.1% 77.6% 81.9% r than 1 58.2% 61.8%	43.9% 44.2% 45.2% 43.7% 47.0% 3 44.8% 45.5% 46.6% 45.8% 48.4% 3 45.2% 46.7%	34.5% 34.5% 33.9% 34.5% 32.5% 5 36.3% 35.4% 35.9% 34.3% 5 37.3% 37.4%	13.6% 13.3% 12.2% 11.9% 11.8% 10 16.5% 16.1% 15.0% 14.3% 10 18.9% 18.4%	2.9% 2.1% 1.4% 0.0% 0.0% 15 4.0% 3.2% 1.7% 0.2% 0.0%	0.4% 0.1% 0.0% 0.0% 0.0% 20 0.5% 0.0% 0.0% 20 0.8% 0.0%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day) 1 7	97.0% 97.3% 97.8% 98.2% 98.9% Salinity (p 0.25 97.0% 97.3% 98.2% 98.9% Salinity (p 0.25 97.0%	0.5 73.2% 76.6% 81.1% 84.9% 89.1% opt) greate 0.5 73.2% 76.6% 81.2% opt) greate 0.5 73.2% 76.6% 81.2%	1 58.2% 61.1% 69.7% 77.0% 80.9% r than 1 58.2% 61.6% 70.1% 77.6% 81.9% r than 1 58.2% 61.8% 71.4%	43.9% 44.2% 45.2% 43.7% 47.0% 3 44.8% 45.5% 46.6% 45.8% 48.4% 3 45.2%	34.5% 34.5% 34.5% 34.5% 34.5% 32.5% 5 36.3% 35.4% 35.9% 34.3% 5 37.3% 37.4% 36.4%	13.6% 13.3% 12.2% 11.9% 11.8% 10 16.5% 16.1% 15.0% 14.3% 10 18.9%	2.9% 2.1% 1.4% 0.0% 0.0% 15 4.0% 3.2% 1.7% 0.2% 0.0%	0.4% 0.1% 0.0% 0.0% 0.0% 20 0.5% 0.0% 0.0% 0.0% 0.0% 0.0%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day)	97.0% 97.3% 97.8% 98.2% 98.9% Salinity (p 0.25 97.0% 97.3% 98.2% 98.9% Salinity (p 0.25 97.0%	0.5 73.2% 76.6% 81.1% 84.9% 89.1% ppt) greate 0.5 73.2% 76.6% 81.2% 85.0% 89.1% ppt) greate 0.5 73.2% 76.6%	1 58.2% 61.1% 69.7% 77.0% 80.9% r than 1 58.2% 61.6% 70.1% 77.6% 81.9% r than 1 58.2% 61.8%	43.9% 44.2% 45.2% 43.7% 47.0% 3 44.8% 45.5% 46.6% 45.8% 48.4% 3 45.2% 46.7%	34.5% 34.5% 33.9% 34.5% 32.5% 5 36.3% 35.4% 35.9% 34.3% 5 37.3% 37.4%	13.6% 13.3% 12.2% 11.9% 11.8% 10 16.5% 16.1% 15.0% 14.3% 10 18.9% 18.4%	2.9% 2.1% 1.4% 0.0% 0.0% 15 4.0% 3.2% 1.7% 0.2% 0.0% 15 5.9% 4.7%	0.4% 0.1% 0.0% 0.0% 0.0% 20 0.5% 0.0% 0.0% 20 0.8% 0.6%

Table C.7 Percent of Time Model Results Exceeds Salinity Levels for Baseline at 40 ft (SJRHBP Station)

Layer 6 (Top)	Salinity (p	ot) greater	than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	100.0%	94.8%	42.6%	29.5%	21.4%	15.6%	7.5%	0.1%
7	100.0%	95.5%	43.8%	29.8%	21.7%	15.6%	7.8%	0.0%
30	100.0%	96.0%	45.6%	31.6%	24.4%	15.0%	7.0%	0.0%
60	100.0%	95.3%	46.6%	34.8%	24.5%	17.1%	6.1%	0.0%
90	100.0%	95.1%	51.4%	37.3%	24.6%	16.9%	4.6%	0.0%
Layer 5	Salinity (pp	ot) greater	than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	100.0%	94.9%	42.7%	29.9%	22.6%	16.6%	8.9%	0.3%
7	100.0%	95.5%	43.9%	30.1%	22.9%	16.6%	8.8%	0.2%
30	100.0%	96.0%	45.6%	32.5%	25.4%	16.5%	8.3%	0.0%
60	100.0%	95.3%	46.7%	35.3%	25.6%	18.3%	7.3%	0.0%
90	100.0%	95.1%	51.8%	38.0%	26.1%	18.7%	6.1%	0.0%
Layer 4	Salinity (p	ot) greater	than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	100.0%	94.9%	42.8%	30.3%	23.4%	17.5%	10.2%	1.0%
7	100.0%	95.5%	43.9%	30.3%	24.0%	17.7%	10.0%	0.8%
30	100.0%	96.0%	45.8%	32.8%	26.1%	17.7%	9.7%	0.0%
60	100.0%	95.3%	46.9%	35.6%	26.6%	19.5%	8.2%	0.0%
90	100.0%	95.1%	52.0%	38.6%	27.7%	20.2%	7.8%	0.0%
Layer 3	Salinity (p	ot) greater	than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	100.0%	94.9%	42.8%	30.4%	23.6%	18.1%	11.0%	1.4%
7	100.0%	95.5%	44.1%	30.5%	24.6%	18.2%	10.6%	1.1%
30	100.0%	96.0%	46.0%	33.2%	26.5%	19.5%	10.4%	0.0%
60	100.0%	95.3%	47.4%	35.9%	27.1%	20.2%	8.8%	0.0%
90	100.0%	95.1%	52.1%	39.1%	29.1%	21.1%	10.0%	0.0%
Layer 2	Salinity (pp	ot) greater	than		T	1	T	
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	100.0%	94.9%	42.8%	30.5%	24.2%	18.4%	11.9%	1.6%
7	100.0%	95.5%	44.1%	30.7%	24.8%	18.6%	11.4%	1.4%
30	100.0%	96.0%	46.0%	33.4%	26.7%	20.3%	10.9%	0.6%
60	100.0%	95.3%	47.7%	36.3%	27.7%	20.5%	9.2%	0.0%
90	100.0%	95.1%	52.2%	39.3%	29.5%	21.5%	10.9%	0.0%
Layer 1 (Bottom)	Salinity (p	ot) greater	than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	100.0%	94.9%	42.8%	30.5%	24.2%	18.5%	12.2%	1.7%
7	100.0%	95.5%	44.1%	31.0%	25.0%	19.0%	11.7%	1.6%
30	100.0%	96.0%	46.3%	33.5%	26.9%	20.8%	11.5%	1.0%
	1	· —				ı ———	· · · · · · · · · · · · · · · · · · ·	·
60	100.0%	95.3%	47.7%	36.7%	27.9%	20.8%	9.5%	0.0%

Table C.8 Percent of Time Model Results Exceeds Salinity Levels for Baseline at 40 ft (Shands Bridge Station)

Layer 6 (Top)	Salinity (pp	ot) greater	than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	100.0%	95.8%	33.3%	11.5%	6.5%	4.0%	0.3%	0.0%
7	100.0%	95.8%	33.9%	11.5%	6.8%	3.5%	0.0%	0.0%
30	100.0%	95.8%	35.4%	13.3%	6.6%	2.8%	0.0%	0.0%
60	100.0%	96.1%	36.4%	17.2%	6.1%	1.7%	0.0%	0.0%
90	100.0%	96.1%	37.9%	16.5%	5.5%	0.0%	0.0%	0.0%
Layer 5	Salinity (pp	ot) greater	than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	100.0%	95.8%	33.3%	11.5%	6.8%	4.5%	0.7%	0.0%
7	100.0%	95.8%	33.9%	11.5%	6.9%	4.2%	0.6%	0.0%
30	100.0%	95.8%	35.5%	13.5%	7.0%	3.3%	0.0%	0.0%
60	100.0%	96.1%	36.8%	17.5%	6.8%	2.4%	0.0%	0.0%
90	100.0%	96.1%	38.0%	16.7%	6.2%	0.0%	0.0%	0.0%
Layer 4	Salinity (pp	ot) greater	than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	100.0%	95.8%	33.3%	11.5%	6.9%	4.7%	1.0%	0.0%
7	100.0%	95.8%	33.9%	11.8%	7.3%	4.6%	0.9%	0.0%
30	100.0%	95.8%	35.6%	13.5%	7.1%	4.0%	0.0%	0.0%
60	100.0%	96.1%	36.9%	17.7%	7.4%	3.0%	0.0%	0.0%
90	100.0%	96.1%	38.0%	16.9%	6.7%	0.0%	0.0%	0.0%
Layer 3	Salinity (pr	ot) greater	than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	100.0%	95.8%	33.3%	11.5%	7.1%	5.0%	1.4%	0.0%
7	100.0%	95.8%	33.9%	11.9%	7.3%	4.9%	1.4%	0.0%
30	100.0%	95.8%	35.6%	13.6%	7.3%	4.5%	0.1%	0.0%
60	100.0%	96.1%	37.0%	17.9%	7.9%	3.6%	0.0%	0.0%
90	100.0%	96.1%	38.1%	17.5%	7.2%	0.0%	0.0%	0.0%
Layer 2	Salinity (pp	ot) greater	than		1	1		T
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	100.0%	95.8%	33.3%	11.5%	7.2%	5.2%	1.7%	0.0%
7	100.0%	95.8%	33.9%	12.0%	7.3%	5.0%	1.7%	0.0%
30	100.0%	95.8%	35.6%	13.8%	7.5%	4.8%	0.8%	0.0%
60	100.0%	96.1%	37.0%	18.1%	8.3%	4.0%	0.0%	0.0%
90	100.0%	96.1%	38.2%	19.0%	7.5%	1.6%	0.0%	0.0%
Layer 1 (Bottom)	Salinity (pr	ot) greater	than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	100.0%	95.8%	33.3%	11.5%	7.2%	5.3%	2.1%	0.0%
7	100.0%	95.8%	33.9%	12.0%	7.5%	5.2%	1.8%	0.0%
30	100.0%	95.8%	35.6%	13.8%	7.7%	5.1%	1.1%	0.0%
60	100.0%	96.1%	37.0%	18.2%	8.5%	4.3%	0.0%	0.0%
	100.070	30.170	37.070	10.270	0.570	4.570	0.070	0.076

Table C.9 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 44 ft vs. Baseline at 40 ft (Dames Point Station)

Layer 6 (Top)	Salinity (ppt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	0.0%	0.0%	0.8%	2.3%	1.7%	1.0%	-0.1%	0.0%
7	0.2%	0.3%	0.6%	2.0%	2.1%	0.9%	0.0%	0.0%
30	0.0%	0.3%	0.5%	3.3%	1.6%	1.3%	0.0%	0.0%
60	0.0%	0.0%	0.6%	1.5%	1.6%	1.4%	0.0%	0.0%
90	0.0%	0.0%	0.5%	0.8%	1.4%	0.6%	0.0%	0.0%
Layer 5	Salinity (ppt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	0.0%	0.1%	0.2%	0.6%	0.2%	-0.8%	-0.5%	0.0%
7	0.0%	0.1%	0.2%	0.5%	0.1%	-0.9%	-0.3%	0.0%
30	0.0%	0.0%	0.0%	0.2%	0.0%	-0.2%	0.0%	0.0%
60	0.0%	0.0%	0.2%	0.4%	0.0%	-0.3%	0.0%	0.0%
90	0.0%	0.0%	0.0%	0.1%	-0.1%	-0.2%	0.0%	0.0%
Layer 4	Salinity (opt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	0.0%	0.1%	0.1%	0.1%	0.0%	-1.1%	-0.8%	0.0%
7	0.0%	0.0%	0.1%	0.1%	-0.1%	-1.2%	-0.5%	0.0%
30	0.0%	0.0%	0.1%	0.1%	-0.3%	-1.0%	-0.3%	0.0%
60	0.0%	0.0%	0.0%	0.1%	-0.3%	-1.0%	0.0%	0.0%
90	0.0%	0.0%	0.0%	0.1%	-0.1%	-0.5%	0.0%	0.0%
Layer 3	Salinity (ppt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	0.0%	0.0%	0.1%	-0.1%	-0.1%	-1.0%	-0.5%	0.0%
7	0.0%	0.0%	0.0%	0.0%	-0.5%	-1.1%	-0.5%	0.0%
30	0.0%	0.0%	0.0%	0.0%	-0.3%	-1.0%	-0.4%	0.0%
60	0.0%	0.0%	0.0%	0.0%	-0.2%	-1.1%	-0.8%	0.0%
90	0.0%	0.0%	0.0%	0.0%	-0.1%	-1.0%	-0.1%	0.0%
Layer 2	Salinity (ppt) greate	r than	,	<u> </u>	T	,	
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	0.0%	0.0%	0.1%	0.1%	0.0%	-1.0%	-0.3%	0.0%
7	0.0%	0.0%	0.1%	0.0%	-0.2%	-1.0%	-0.2%	0.0%
30	0.0%	0.0%	0.0%	0.0%	-0.1%	-0.6%	-0.2%	0.0%
60	0.0%	0.0%	0.0%	0.0%	0.0%	-1.4%	0.0%	0.0%
90	0.0%	0.0%	0.0%	0.0%	0.0%	-0.4%	0.0%	0.0%
Layer 1 (Bottom)	Salinity (ppt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	0.0%	0.0%	0.2%	0.1%	0.0%	-0.4%	-0.8%	0.0%
7	0.0%	0.0%	0.0%	0.2%	0.0%	-1.3%	-0.4%	0.0%
30	0.0%	0.0%	0.0%	0.1%	0.0%	-0.9%	-0.2%	0.0%
60	0.0%	0.0%	0.0%	0.0%	0.0%	-1.0%	-0.4%	0.0%
90	0.0%	0.0%	0.0%	0.0%	0.0%	-0.4%	-0.4%	0.0%

Table C.10 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 44 ft vs. Baseline at 40 ft (Acosta Bridge Station)

Layer 6 (Top)	Salinity (opt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	1.3%	2.5%	3.0%	1.6%	0.7%	0.2%	0.0%	0.0%
7	1.8%	2.3%	2.7%	2.2%	1.0%	0.0%	0.0%	0.0%
30	1.3%	3.6%	3.2%	2.9%	0.9%	0.0%	0.0%	0.0%
60	1.6%	2.0%	3.3%	1.9%	1.4%	0.0%	0.0%	0.0%
90	2.0%	1.0%	2.7%	2.1%	0.0%	0.0%	0.0%	0.0%
Layer 5		opt) greate					l.	
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	1.9%	2.0%	2.7%	1.9%	1.1%	0.1%	0.0%	0.0%
7	1.7%	2.5%	2.9%	2.6%	1.3%	0.2%	0.0%	0.0%
30	0.9%	2.3%	5.5%	2.1%	1.6%	0.0%	0.0%	0.0%
60	0.3%	2.0%	5.1%	1.7%	1.5%	0.0%	0.0%	0.0%
90	0.7%	1.5%	2.7%	2.0%	1.9%	0.0%	0.0%	0.0%
Layer 4	Salinity (opt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	1.6%	1.7%	3.2%	2.3%	1.4%	0.2%	0.0%	0.0%
7	1.0%	2.1%	2.8%	2.2%	1.2%	0.0%	0.0%	0.0%
30	1.0%	2.6%	2.9%	2.0%	1.7%	0.0%	0.0%	0.0%
60	1.1%	2.1%	4.0%	2.6%	1.1%	0.0%	0.0%	0.0%
90	0.3%	1.2%	5.2%	1.9%	2.4%	0.0%	0.0%	0.0%
Layer 3	Salinity (opt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	1.8%	1.7%	3.2%	2.2%	1.2%	0.3%	0.0%	0.0%
7	1.0%	2.0%	2.5%	1.7%	2.3%	0.1%	0.0%	0.0%
30	0.6%	2.1%	2.3%	2.0%	0.9%	0.0%	0.0%	0.0%
60	1.2%	1.3%	3.0%	3.0%	1.0%	0.0%	0.0%	0.0%
90	0.4%	1.4%	7.1%	1.7%	2.7%	0.0%	0.0%	0.0%
Layer 2	Salinity (opt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	1.6%	1.7%	3.1%	3.2%	2.2%	0.3%	0.0%	0.0%
7	1.1%	1.9%	3.0%	2.3%	1.7%	0.2%	0.0%	0.0%
30	0.5%	1.8%	2.0%	1.4%	1.2%	0.0%	0.0%	0.0%
60	1.0%	1.3%	3.0%	2.8%	1.1%	0.0%	0.0%	0.0%
90	0.3%	1.6%	6.4%	2.1%	3.0%	0.0%	0.0%	0.0%
Layer 1 (Bottom)	Salinity (opt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	1.4%	1.8%	3.3%	2.9%	1.5%	0.2%	0.0%	0.0%
7	1.2%	1.8%	2.8%	2.2%	1.8%	0.2%	0.0%	0.0%
30	0.5%	1.5%	1.9%	1.5%	1.7%	0.0%	0.0%	0.0%
60	1.0%	1.3%	3.2%	1.8%	1.6%	0.0%	0.0%	0.0%
90	0.5%	1.8%	6.7%	2.4%	2.0%	0.0%	0.0%	0.0%

Table C.11 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 44 ft vs. Baseline at 40 ft (SAVPTLV Station)

Layer 6 (Top)	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.1%	1.2%	1.6%	2.6%	2.8%	1.9%	1.2%	0.2%
7	0.1%	0.7%	1.3%	2.6%	2.5%	3.1%	1.4%	0.1%
30	0.1%	0.8%	1.0%	1.5%	4.9%	1.3%	0.7%	0.0%
60	0.0%	0.2%	0.4%	2.5%	3.8%	2.2%	1.2%	0.0%
90	0.0%	0.4%	1.8%	2.3%	3.0%	1.8%	1.2%	0.0%
Layer 5	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.0%	1.2%	1.8%	2.9%	2.3%	1.6%	1.2%	0.2%
7	0.1%	0.7%	1.5%	3.0%	2.8%	2.4%	1.0%	0.1%
30	0.1%	0.8%	0.9%	1.3%	4.2%	1.5%	0.8%	0.0%
60	0.0%	0.0%	0.5%	2.1%	4.7%	1.6%	1.6%	0.0%
90	0.0%	0.0%	1.6%	2.0%	3.4%	1.6%	1.5%	0.0%
Layer 4	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.0%	1.4%	1.7%	2.9%	2.1%	1.5%	1.0%	0.2%
7	0.1%	0.8%	1.5%	3.0%	2.6%	1.9%	1.3%	0.1%
30	0.1%	0.7%	1.1%	1.2%	3.1%	1.6%	0.8%	0.0%
60	0.0%	0.1%	1.0%	2.0%	5.2%	1.1%	1.5%	0.0%
90	0.0%	0.0%	1.0%	1.7%	4.7%	1.5%	1.9%	0.0%
Layer 3	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.0%	1.4%	1.8%	2.7%	2.4%	1.9%	1.0%	0.3%
7	0.1%	0.8%	1.3%	2.8%	2.7%	1.9%	1.4%	0.2%
30	0.0%	0.6%	1.2%	1.0%	2.9%	2.1%	1.0%	0.0%
60	0.0%	0.1%	1.0%	1.9%	4.5%	1.2%	1.0%	0.0%
90	0.0%	0.0%	0.8%	1.9%	5.1%	1.5%	1.8%	0.0%
Layer 2	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.0%	1.4%	1.7%	2.8%	2.5%	1.9%	1.1%	0.3%
7	0.1%	0.7%	1.2%	2.8%	2.4%	1.9%	1.2%	0.3%
30	0.0%	0.6%	1.2%	1.1%	2.6%	2.0%	1.4%	0.0%
60	0.0%	0.1%	1.0%	1.8%	4.4%	1.4%	1.0%	0.0%
90	0.0%	0.0%	0.4%	2.2%	5.1%	1.5%	1.5%	0.0%
Layer 1 (Bottom)		opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.0%	1.4%	1.7%	2.9%	2.5%	2.1%	1.1%	0.2%
7	0.1%	0.7%	1.3%	2.9%	2.4%	1.9%	1.3%	0.3%
30	0.0%	0.7%	1.2%	1.2%	2.3%	2.1%	1.4%	0.0%
60	0.0%	0.1%	1.0%	1.8%	4.4%	1.4%	1.0%	0.0%
90	0.0%	0.0%	0.4%	2.2%	5.1%	1.5%	1.6%	0.0%

Table C.12 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 44 ft vs. Baseline at 40 ft (JAXSJR40 Station)

Layer 6 (Top)	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.0%	1.5%	2.5%	2.5%	1.7%	1.8%	1.4%	0.0%
7	0.0%	1.6%	2.0%	2.8%	2.1%	1.4%	1.0%	0.0%
30	0.0%	0.4%	1.5%	1.6%	2.0%	2.7%	0.8%	0.0%
60	0.3%	1.2%	2.1%	2.7%	1.8%	1.8%	1.3%	0.0%
90	0.0%	0.0%	1.3%	5.4%	1.8%	1.4%	0.0%	0.0%
Layer 5	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.0%	1.4%	2.2%	2.5%	1.8%	2.1%	1.0%	0.2%
7	0.0%	1.7%	2.6%	2.1%	2.6%	2.0%	1.2%	0.1%
30	0.0%	0.3%	1.4%	1.3%	2.4%	2.3%	1.0%	0.0%
60	0.1%	1.2%	3.0%	2.4%	3.3%	1.7%	0.7%	0.0%
90	0.0%	0.1%	1.2%	2.2%	2.4%	2.1%	0.0%	0.0%
Layer 4	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.0%	1.4%	2.0%	2.8%	1.8%	1.3%	0.8%	0.1%
7	0.0%	1.5%	2.5%	2.0%	2.4%	2.2%	1.1%	0.2%
30	0.1%	0.4%	1.1%	1.2%	2.2%	1.8%	0.9%	0.0%
60	0.1%	0.7%	3.1%	3.1%	1.8%	1.7%	0.6%	0.0%
90	0.0%	0.1%	1.8%	3.5%	1.3%	2.1%	1.7%	0.0%
Layer 3	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.1%	1.1%	1.8%	2.8%	2.0%	1.4%	0.9%	0.1%
7	0.0%	1.6%	2.2%	2.1%	2.5%	2.1%	1.1%	0.1%
30	0.3%	0.4%	1.3%	1.6%	3.6%	1.8%	0.6%	0.0%
60	0.1%	0.4%	2.7%	2.1%	3.5%	2.1%	1.0%	0.0%
90	0.0%	0.1%	2.3%	3.3%	2.0%	1.8%	1.3%	0.0%
Layer 2	Salinity (ppt) greate	r than	,	<u> </u>	T		
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.1%	1.1%	1.5%	2.5%	2.3%	2.0%	1.0%	0.3%
7	0.0%	1.7%	2.3%	2.6%	3.1%	1.8%	0.9%	0.2%
30	0.3%	0.5%	1.2%	1.6%	4.5%	1.3%	1.5%	0.0%
60	0.0%	0.3%	3.0%	2.1%	3.3%	1.3%	1.4%	0.0%
90	0.0%	0.5%	2.8%	2.2%	3.3%	1.6%	1.7%	0.0%
Layer 1 (Bottom)		opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.1%	1.1%	1.7%	2.4%	2.2%	1.8%	1.2%	0.1%
7	0.0%	1.6%	2.3%	2.5%	3.0%	1.9%	1.0%	0.1%
30	0.3%	0.5%	1.5%	2.0%	4.7%	1.6%	1.1%	0.0%
60	0.0%	0.4%	2.5%	2.4%	3.9%	1.0%	1.1%	0.0%
90	0.0%	0.5%	3.0%	2.1%	3.0%	1.1%	1.7%	0.0%

Table C.13 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 44 ft vs. Baseline at 40 ft (SAVBOLS Station)

Layer 6 (Top)	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.0%	1.6%	2.2%	2.1%	1.5%	1.1%	0.2%	0.0%
7	0.0%	1.8%	1.6%	2.6%	1.3%	1.0%	0.2%	0.0%
30	0.0%	2.3%	0.9%	2.7%	1.0%	1.1%	0.3%	0.0%
60	0.1%	0.7%	1.1%	2.3%	1.2%	1.1%	0.0%	0.0%
90	0.1%	1.8%	0.4%	1.7%	1.4%	1.2%	0.0%	0.0%
Layer 5	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.0%	1.6%	2.1%	2.0%	1.4%	0.9%	0.3%	0.1%
7	0.0%	1.9%	1.6%	2.5%	1.2%	1.5%	0.1%	0.0%
30	0.0%	2.2%	0.8%	2.6%	1.0%	1.5%	0.2%	0.0%
60	0.1%	0.8%	1.0%	2.7%	1.0%	1.8%	0.0%	0.0%
90	0.1%	1.5%	0.5%	2.1%	1.4%	1.1%	0.0%	0.0%
Layer 4	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.0%	1.6%	2.1%	2.0%	1.6%	1.0%	0.2%	0.0%
7	0.0%	1.9%	1.6%	2.2%	0.9%	1.5%	0.3%	0.0%
30	0.0%	2.2%	0.9%	2.6%	1.2%	1.6%	0.2%	0.0%
60	0.1%	0.9%	1.1%	3.5%	1.1%	2.3%	0.0%	0.0%
90	0.1%	1.6%	0.5%	2.2%	1.3%	0.9%	0.0%	0.0%
Layer 3	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.0%	1.6%	2.1%	1.8%	1.4%	0.9%	0.3%	0.0%
7	0.0%	2.0%	1.6%	2.3%	0.9%	1.4%	0.2%	0.0%
30	0.0%	2.1%	1.1%	2.9%	1.4%	1.7%	0.5%	0.0%
60	0.1%	1.0%	1.0%	3.3%	1.3%	2.5%	0.0%	0.0%
90	0.1%	1.6%	0.4%	1.6%	1.6%	0.9%	0.0%	0.0%
Layer 2	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.0%	1.5%	2.1%	1.9%	1.4%	1.2%	0.4%	0.0%
7	0.0%	2.1%	1.6%	2.1%	1.2%	1.7%	0.4%	0.0%
30	0.0%	2.1%	1.2%	3.4%	1.4%	1.3%	0.8%	0.0%
60	0.1%	1.0%	1.0%	3.5%	1.1%	2.6%	0.0%	0.0%
90	0.1%	1.7%	0.5%	2.1%	2.0%	1.1%	0.0%	0.0%
Layer 1 (Bottom)	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.0%	1.5%	2.1%	1.8%	1.6%	1.1%	0.3%	0.0%
7	0.0%	2.1%	1.6%	2.1%	1.4%	1.7%	0.3%	0.0%
30	0.0%	2.1%	1.3%	3.6%	2.2%	1.1%	0.6%	0.0%
60	0.1%	1.0%	1.0%	3.5%	1.0%	2.3%	0.0%	0.0%
90	0.1%	1.6%	0.5%	3.1%	2.3%	1.3%	0.0%	0.0%

Table C.14 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 44 ft vs. Baseline at 40 ft (Buckman Bridge Station)

Layer 6 (Top)	Salinity (opt) greate	r than						
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20	
1	0.1%	1.6%	2.1%	1.1%	1.6%	0.5%	0.1%	0.0%	
7	0.0%	1.1%	2.1%	1.6%	1.4%	0.6%	0.1%	0.0%	
30	0.0%	1.2%	1.4%	1.6%	1.0%	0.6%	0.0%	0.0%	
60	0.2%	0.8%	1.9%	1.7%	1.0%	0.6%	0.0%	0.0%	
90	0.2%	0.6%	1.2%	3.3%	0.9%	1.6%	0.0%	0.0%	
Layer 5	Salinity (opt) greate	r than						
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20	
1	0.1%	1.6%	2.1%	1.8%	1.3%	0.6%	0.2%	0.0%	
7	0.0%	1.0%	1.7%	1.4%	1.8%	0.5%	0.1%	0.0%	
30	0.0%	1.6%	0.8%	1.5%	1.2%	1.0%	0.0%	0.0%	
60	0.2%	0.9%	1.7%	1.1%	1.8%	0.9%	0.0%	0.0%	
90	0.1%	0.3%	3.2%	2.0%	1.0%	1.1%	0.0%	0.0%	
Layer 4	Salinity (opt) greate	r than						
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20	
1	0.1%	1.6%	1.9%	1.6%	1.2%	1.3%	0.3%	0.1%	
7	0.0%	1.0%	1.5%	2.1%	0.9%	1.0%	0.1%	0.0%	
30	0.0%	1.4%	0.7%	1.2%	1.1%	1.2%	0.4%	0.0%	
60	0.2%	1.0%	1.5%	1.2%	1.8%	1.4%	0.0%	0.0%	
90	0.1%	0.2%	2.1%	1.2%	1.0%	1.7%	0.0%	0.0%	
Layer 3	Salinity (ppt) greater than								
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20	
1	0.1%	1.6%	1.9%	1.3%	1.4%	1.4%	0.3%	0.0%	
7	0.0%	1.0%	1.8%	1.7%	1.4%	1.4%	0.2%	0.1%	
30	0.0%	1.4%	0.6%	1.1%	1.0%	1.3%	0.1%	0.0%	
60	0.2%	1.0%	0.9%	2.0%	0.8%	2.5%	0.0%	0.0%	
90	0.1%	0.1%	1.1%	1.3%	1.3%	1.3%	0.0%	0.0%	
Layer 2	Salinity (opt) greate	r than						
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20	
1	0.1%	1.6%	1.9%	1.3%	1.1%	1.4%	0.7%	0.0%	
7	0.0%	1.0%	1.8%	1.6%	0.8%	1.1%	0.7%	0.0%	
30	0.0%	1.4%	1.2%	1.0%	0.6%	1.4%	0.3%	0.0%	
60	0.2%	1.1%	1.1%	2.5%	0.9%	0.8%	0.4%	0.0%	
90	0.1%	0.2%	1.5%	1.6%	1.2%	2.0%	0.0%	0.0%	
Layer 1 (Bottom)	Salinity (opt) greate	r than						
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20	
1	0.1%	1.6%	2.0%	1.4%	1.1%	1.2%	0.3%	0.1%	
7	0.0%	1.1%	1.7%	1.6%	1.2%	1.6%	0.5%	0.0%	
30	0.0%	1.5%	0.9%	1.3%	1.1%	1.0%	0.4%	0.0%	
60	0.2%	1.1%	0.4%	2.9%	1.5%	1.0%	1.0%	0.0%	
90	0.1%	0.1%	1.5%	1.1%	2.9%	1.0%	0.0%	0.0%	

Table C.15 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 44 ft vs. Baseline at 40 ft (SJRHBP Station)

Layer 6 (Top)	Salinity (opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	1.0%	1.1%	1.1%	0.4%	0.5%	0.0%
7	0.0%	0.1%	0.8%	0.6%	0.9%	0.7%	0.4%	0.0%
30	0.0%	0.1%	1.4%	1.0%	0.8%	1.0%	0.7%	0.0%
60	0.0%	0.2%	0.5%	0.6%	0.9%	0.5%	0.6%	0.0%
90	0.0%	0.0%	0.8%	0.8%	0.8%	1.0%	0.4%	0.0%
Layer 5	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.9%	0.9%	0.8%	0.9%	0.8%	0.0%
7	0.0%	0.0%	0.9%	0.6%	1.0%	0.7%	0.7%	0.0%
30	0.0%	0.0%	1.6%	0.6%	0.7%	0.8%	0.4%	0.0%
60	0.0%	0.3%	0.4%	0.4%	0.8%	0.5%	0.4%	0.0%
90	0.0%	0.1%	0.7%	0.7%	1.6%	0.7%	0.6%	0.0%
Layer 4	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.8%	0.7%	0.7%	0.6%	0.7%	0.0%
7	0.0%	0.0%	0.9%	1.0%	0.9%	0.3%	0.4%	0.1%
30	0.0%	0.0%	1.6%	1.0%	0.4%	1.0%	0.3%	0.0%
60	0.0%	0.3%	0.8%	0.7%	0.5%	0.5%	0.3%	0.0%
90	0.0%	0.1%	0.8%	0.6%	1.4%	0.6%	1.6%	0.0%
Layer 3	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.8%	0.8%	0.7%	0.6%	0.6%	-0.1%
7	0.0%	0.0%	0.8%	1.0%	0.5%	0.6%	0.9%	0.2%
30	0.0%	0.0%	1.5%	1.1%	0.4%	1.1%	0.4%	0.0%
60	0.0%	0.2%	0.6%	1.2%	0.6%	0.3%	0.4%	0.0%
90	0.0%	0.1%	1.0%	0.5%	0.5%	0.3%	0.9%	0.0%
Layer 2	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.8%	0.8%	0.8%	0.7%	0.4%	0.0%
7	0.0%	0.0%	0.8%	1.0%	0.8%	0.7%	0.6%	0.1%
30	0.0%	0.0%	1.7%	1.1%	0.6%	1.0%	0.5%	0.1%
60	0.0%	0.2%	0.4%	1.0%	1.0%	0.7%	0.4%	0.0%
90	0.0%	0.0%	1.1%	0.5%	0.5%	0.3%	0.6%	0.0%
Layer 1 (Bottom)	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.8%	0.8%	0.8%	0.8%	0.5%	0.1%
7	0.0%	0.0%	0.8%	0.9%	0.6%	0.5%	0.8%	0.0%
30	0.0%	0.0%	2.6%	1.1%	0.4%	0.9%	0.3%	0.2%
60	0.0%	0.2%	0.4%	0.8%	1.8%	1.0%	0.6%	0.0%
90	0.0%	0.0%	1.1%	0.5%	0.5%	0.4%	0.5%	0.0%

Table C.16 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 44 ft vs. Baseline at 40 ft (Shands Bridge Station)

Layer 6 (Top)	Salinity (opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.4%	0.1%	0.1%	0.2%	-0.1%	0.0%
7	0.0%	0.0%	0.2%	0.3%	0.0%	0.1%	0.0%	0.0%
30	0.0%	0.0%	0.4%	0.3%	0.1%	0.1%	0.0%	0.0%
60	0.0%	0.0%	0.4%	0.2%	0.3%	0.1%	0.0%	0.0%
90	0.0%	0.0%	0.4%	0.2%	0.1%	0.0%	0.0%	0.0%
Layer 5	Salinity (p	opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.4%	0.1%	0.0%	0.2%	0.0%	0.0%
7	0.0%	0.0%	0.2%	0.5%	0.1%	0.1%	0.1%	0.0%
30	0.0%	0.0%	0.4%	0.2%	0.1%	0.0%	0.0%	0.0%
60	0.0%	0.0%	0.3%	0.2%	0.4%	0.1%	0.0%	0.0%
90	0.0%	0.0%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%
Layer 4	Salinity (opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.4%	0.1%	0.2%	0.0%	0.0%	0.0%
7	0.0%	0.0%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%
30	0.0%	0.0%	0.3%	0.3%	0.1%	0.1%	0.0%	0.0%
60	0.0%	0.0%	0.2%	0.2%	0.2%	0.0%	0.0%	0.0%
90	0.0%	0.0%	0.3%	0.1%	0.1%	0.0%	0.0%	0.0%
Layer 3	Salinity (p	ppt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.4%	0.1%	0.0%	0.0%	-0.1%	0.0%
7	0.0%	0.0%	0.2%	0.3%	0.0%	0.0%	-0.1%	0.0%
30	0.0%	0.0%	0.3%	0.3%	0.0%	0.1%	-0.1%	0.0%
60	0.0%	0.0%	0.2%	0.0%	0.2%	0.0%	0.0%	0.0%
90	0.0%	0.0%	0.4%	0.1%	0.1%	0.0%	0.0%	0.0%
Layer 2	Salinity (opt) greate	r than	1	T	T	1	
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.4%	0.1%	0.0%	0.0%	0.1%	0.0%
7	0.0%	0.0%	0.2%	0.2%	0.2%	0.0%	0.0%	0.0%
30	0.0%	0.0%	0.3%	0.2%	0.0%	0.0%	-0.1%	0.0%
60	0.0%	0.0%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%
90	0.0%	0.0%	0.4%	-0.2%	0.0%	-0.2%	0.0%	0.0%
Layer 1 (Bottom)	1	pt) greate						
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.4%	0.1%	0.1%	0.0%	0.0%	0.0%
7	0.0%	0.0%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%
30	0.0%	0.0%	0.3%	0.2%	0.0%	0.1%	0.0%	0.0%
60	0.0%	0.0%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%
90	0.0%	0.0%	0.3%	-0.1%	0.0%	-0.5%	0.0%	0.0%

Table C.17 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 46 ft vs. Baseline at 40 ft (Dames Point Station)

Layer 6 (Top)	Salinity (opt) greate	r than						
Moving Average Period (day)	3	5	10	15	20	25	30	35	
1	0.1%	0.1%	1.2%	3.1%	2.7%	1.6%	0.0%	0.0%	
7	0.3%	0.4%	1.0%	3.0%	3.4%	1.7%	0.0%	0.0%	
30	0.0%	0.3%	0.7%	4.5%	2.6%	1.9%	0.0%	0.0%	
60	0.0%	0.0%	1.6%	2.1%	2.2%	1.9%	0.0%	0.0%	
90	0.0%	0.0%	0.8%	1.1%	2.0%	0.9%	0.0%	0.0%	
Layer 5	Salinity (opt) greate	r than						
Moving Average Period (day)	3	5	10	15	20	25	30	35	
1	0.0%	0.1%	0.3%	0.7%	0.4%	-0.8%	-0.7%	0.0%	
7	0.0%	0.2%	0.2%	0.7%	0.2%	-1.0%	-0.3%	0.0%	
30	0.0%	0.0%	0.2%	0.2%	0.0%	-0.2%	-0.1%	0.0%	
60	0.0%	0.0%	0.5%	0.5%	0.2%	-0.4%	-0.3%	0.0%	
90	0.0%	0.0%	0.0%	0.5%	0.4%	-0.2%	0.0%	0.0%	
Layer 4	Salinity (opt) greate	r than						
Moving Average Period (day)	3	5	10	15	20	25	30	35	
1	0.0%	0.1%	0.1%	0.1%	0.0%	-1.3%	-1.2%	0.0%	
7	0.0%	0.0%	0.3%	0.1%	-0.3%	-1.4%	-0.7%	0.0%	
30	0.0%	0.0%	0.2%	0.2%	-0.3%	-1.4%	-0.7%	0.0%	
60	0.0%	0.0%	0.0%	0.3%	-0.4%	-1.3%	-0.1%	0.0%	
90	0.0%	0.0%	0.0%	0.1%	-0.1%	-0.7%	-0.2%	0.0%	
Layer 3	Salinity (ppt) greater than								
Moving Average Period (day)	3	5	10	15	20	25	30	35	
1	0.0%	0.0%	0.2%	0.0%	-0.2%	-1.1%	-1.0%	0.0%	
7	0.0%	0.0%	0.0%	0.0%	-0.7%	-1.2%	-0.8%	0.0%	
30	0.0%	0.0%	0.0%	0.1%	-0.4%	-1.2%	-0.7%	0.0%	
60	0.0%	0.0%	0.0%	0.0%	-0.2%	-1.4%	-1.8%	0.0%	
90	0.0%	0.0%	0.0%	0.0%	-0.2%	-1.2%	-0.3%	0.0%	
Layer 2	Salinity (opt) greate	r than						
Moving Average Period (day)	3	5	10	15	20	25	30	35	
1	0.0%	0.0%	0.1%	0.2%	-0.1%	-1.1%	-0.5%	0.0%	
7	0.0%	0.0%	0.2%	0.0%	-0.2%	-1.4%	-0.5%	0.0%	
30	0.0%	0.0%	0.0%	0.1%	-0.1%	-0.8%	-0.9%	0.0%	
60	0.0%	0.0%	0.0%	0.0%	0.0%	-1.9%	-0.2%	0.0%	
90	0.0%	0.0%	0.0%	0.0%	0.0%	-0.7%	-0.2%	0.0%	
Layer 1 (Bottom)	Salinity (opt) greate	r than						
Moving Average Period (day)	3	5	10	15	20	25	30	35	
1	0.0%	0.0%	0.2%	0.1%	0.0%	-0.5%	-1.3%	0.0%	
7	0.0%	0.0%	0.0%	0.2%	0.0%	-1.4%	-1.0%	0.0%	
30	0.0%	0.0%	0.0%	0.1%	0.1%	-1.0%	-0.5%	0.0%	
60	0.0%	0.0%	0.0%	0.0%	0.0%	-1.0%	-0.9%	0.0%	
90	0.0%	0.0%	0.0%	0.0%	0.2%	-0.4%	-0.5%	0.0%	

Table C.18 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 46 ft vs. Baseline at 40 ft (Acosta Bridge Station)

Layer 6 (Top)	Salinity (opt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	1.8%	3.2%	3.3%	2.0%	0.9%	0.2%	0.0%	0.0%
7	2.1%	2.8%	3.1%	2.6%	1.2%	0.0%	0.0%	0.0%
30	1.6%	4.8%	3.8%	4.0%	1.2%	0.0%	0.0%	0.0%
60	1.9%	2.4%	3.9%	2.4%	1.9%	0.0%	0.0%	0.0%
90	2.6%	1.3%	3.1%	2.7%	0.0%	0.0%	0.0%	0.0%
Layer 5	Salinity (ppt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	2.2%	2.4%	3.3%	2.4%	1.2%	0.2%	0.0%	0.0%
7	2.1%	2.8%	3.5%	3.1%	1.5%	0.3%	0.0%	0.0%
30	1.1%	2.9%	6.1%	2.6%	1.8%	0.0%	0.0%	0.0%
60	0.8%	2.3%	5.9%	2.0%	1.7%	0.0%	0.0%	0.0%
90	0.8%	2.0%	3.6%	2.1%	2.1%	0.0%	0.0%	0.0%
Layer 4	Salinity (ppt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	2.1%	2.1%	3.8%	2.6%	1.7%	0.2%	0.0%	0.0%
7	1.4%	2.6%	3.2%	2.6%	1.5%	0.1%	0.0%	0.0%
30	1.1%	3.0%	3.3%	2.4%	2.0%	0.0%	0.0%	0.0%
60	1.3%	2.4%	4.7%	3.0%	1.3%	0.0%	0.0%	0.0%
90	0.4%	1.6%	6.5%	2.1%	2.6%	0.0%	0.0%	0.0%
Layer 3	Salinity (ppt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	2.1%	2.2%	3.7%	2.6%	1.4%	0.3%	0.0%	0.0%
7	1.2%	2.4%	3.1%	2.0%	2.4%	0.1%	0.0%	0.0%
30	0.8%	2.5%	2.5%	2.1%	1.0%	0.0%	0.0%	0.0%
60	1.5%	1.6%	3.5%	3.4%	1.1%	0.0%	0.0%	0.0%
90	0.4%	1.6%	8.2%	2.1%	2.8%	0.0%	0.0%	0.0%
Layer 2	Salinity (ppt) greate	r than				1	
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	1.9%	2.1%	3.5%	3.4%	2.3%	0.3%	0.0%	0.0%
7	1.4%	2.2%	3.6%	2.5%	1.9%	0.2%	0.0%	0.0%
30	0.7%	1.9%	2.3%	1.7%	1.5%	0.0%	0.0%	0.0%
60	1.3%	1.6%	3.7%	3.0%	1.3%	0.0%	0.0%	0.0%
90	0.5%	2.1%	7.8%	2.5%	3.1%	0.0%	0.0%	0.0%
Layer 1 (Bottom)	Salinity (ppt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	1.7%	2.3%	3.9%	3.4%	1.6%	0.3%	0.0%	0.0%
7	1.6%	2.0%	3.1%	2.3%	2.1%	0.2%	0.0%	0.0%
30	0.8%	1.6%	2.4%	1.7%	2.1%	0.0%	0.0%	0.0%
60	1.1%	1.6%	3.8%	1.9%	1.8%	0.0%	0.0%	0.0%
90	0.7%	2.3%	7.7%	2.6%	2.2%	0.0%	0.0%	0.0%

Table C.19 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 46 ft vs. Baseline at 40 ft (SAVPTLV Station)

Layer 6 (Top)	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.6%	2.3%	3.5%	3.2%	2.1%	1.6%	0.2%
7	0.2%	1.0%	1.8%	3.3%	3.1%	3.5%	1.6%	0.2%
30	0.1%	1.2%	1.4%	1.9%	5.8%	1.6%	0.9%	0.0%
60	0.0%	0.2%	0.6%	3.0%	5.1%	2.6%	1.7%	0.0%
90	0.0%	0.4%	1.9%	2.6%	3.6%	2.1%	1.5%	0.0%
Layer 5	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.7%	2.4%	3.3%	2.6%	1.8%	1.4%	0.3%
7	0.2%	1.0%	1.8%	3.4%	3.4%	2.7%	1.3%	0.1%
30	0.1%	1.0%	1.2%	1.6%	4.7%	1.9%	1.0%	0.0%
60	0.0%	0.1%	0.9%	2.6%	5.7%	1.8%	1.8%	0.0%
90	0.0%	0.0%	1.6%	2.6%	4.3%	1.8%	1.9%	0.0%
Layer 4	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.6%	2.3%	3.4%	2.9%	2.0%	1.1%	0.3%
7	0.2%	1.0%	1.7%	3.7%	3.3%	2.2%	1.6%	0.2%
30	0.1%	0.9%	1.4%	1.5%	3.8%	2.4%	1.0%	0.0%
60	0.0%	0.1%	1.1%	2.4%	6.4%	1.4%	1.6%	0.0%
90	0.0%	0.0%	1.1%	2.2%	5.8%	1.8%	2.1%	0.0%
Layer 3	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.6%	2.1%	3.4%	3.1%	2.5%	1.2%	0.4%
7	0.2%	1.0%	1.6%	3.5%	3.0%	2.1%	1.7%	0.3%
30	0.0%	0.7%	1.4%	1.6%	3.3%	2.4%	1.6%	0.0%
60	0.0%	0.1%	1.0%	2.2%	5.1%	1.6%	1.2%	0.0%
90	0.0%	0.0%	0.9%	2.6%	6.3%	1.7%	2.0%	0.0%
Layer 2	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.6%	2.1%	3.5%	3.1%	2.4%	1.4%	0.3%
7	0.2%	1.0%	1.7%	3.4%	2.8%	2.2%	1.6%	0.3%
30	0.0%	0.7%	1.5%	1.6%	3.3%	2.4%	1.7%	0.0%
60	0.0%	0.1%	1.0%	2.2%	5.2%	1.7%	1.1%	0.0%
90	0.0%	0.0%	0.5%	2.7%	6.5%	1.7%	1.7%	0.0%
Layer 1 (Bottom)	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.7%	2.1%	3.5%	3.1%	2.5%	1.4%	0.3%
7	0.2%	1.0%	1.7%	3.5%	2.9%	2.2%	1.6%	0.3%
30	0.0%	0.7%	1.5%	1.6%	3.0%	2.6%	1.7%	0.0%
60	0.0%	0.1%	1.0%	2.2%	5.2%	1.9%	1.1%	0.0%
90	0.0%	0.0%	0.5%	2.8%	6.8%	1.7%	1.8%	0.0%

Table C.20 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 46 ft vs. Baseline at 40 ft (JAXSJR40 Station)

Layer 6 (Top)	Salinity (opt) greate	r than							
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.2%	1.7%	2.7%	3.0%	2.0%	2.2%	1.6%	0.1%		
7	0.0%	2.0%	3.1%	3.3%	2.5%	1.7%	1.2%	0.0%		
30	0.1%	0.5%	1.9%	1.9%	2.3%	3.3%	1.3%	0.0%		
60	0.3%	1.5%	3.0%	3.3%	2.8%	2.2%	1.5%	0.0%		
90	0.0%	0.0%	1.5%	5.7%	2.4%	1.7%	0.0%	0.0%		
Layer 5	Salinity (opt) greate	r than							
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.2%	1.7%	2.6%	3.2%	2.1%	2.4%	1.2%	0.2%		
7	0.0%	2.1%	3.1%	2.6%	2.8%	2.3%	1.6%	0.2%		
30	0.3%	0.4%	1.6%	1.8%	3.0%	2.6%	1.1%	0.0%		
60	0.1%	1.3%	3.8%	3.3%	3.8%	2.0%	0.9%	0.0%		
90	0.0%	0.1%	1.7%	3.6%	2.7%	2.6%	0.5%	0.0%		
Layer 4	Salinity (opt) greate	r than							
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.2%	1.7%	2.3%	3.4%	2.2%	1.5%	1.0%	0.2%		
7	0.0%	2.0%	3.1%	2.5%	3.0%	2.6%	1.2%	0.2%		
30	0.3%	0.5%	1.8%	1.4%	3.1%	2.1%	1.0%	0.0%		
60	0.1%	0.7%	3.8%	3.6%	2.6%	2.0%	0.7%	0.0%		
90	0.0%	0.1%	2.4%	4.3%	1.7%	2.5%	2.0%	0.0%		
Layer 3	Salinity (Salinity (ppt) greater than								
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.2%	1.6%	2.3%	3.4%	2.6%	1.8%	1.0%	0.2%		
7	0.0%	2.2%	2.9%	2.7%	2.9%	2.4%	1.3%	0.2%		
30	0.3%	0.5%	1.7%	1.9%	4.8%	2.1%	0.7%	0.0%		
60	0.1%	0.5%	3.8%	2.7%	4.2%	2.6%	1.1%	0.0%		
90	0.0%	0.5%	3.2%	3.8%	2.6%	2.2%	1.4%	0.0%		
Layer 2	Salinity (opt) greate	r than							
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.2%	1.7%	2.2%	3.1%	2.7%	2.2%	1.2%	0.3%		
7	0.0%	2.2%	2.6%	3.1%	3.6%	2.3%	1.1%	0.2%		
30	0.3%	0.6%	1.7%	2.1%	5.3%	1.6%	1.6%	0.0%		
60	0.0%	0.4%	3.2%	2.7%	4.2%	1.6%	1.6%	0.0%		
90	0.0%	0.7%	3.3%	2.7%	3.8%	1.8%	1.9%	0.0%		
Layer 1 (Bottom)	Salinity (opt) greate	r than							
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.2%	1.8%	2.3%	3.2%	2.5%	2.0%	1.3%	0.1%		
7	0.0%	2.0%	2.5%	3.2%	3.7%	2.1%	1.1%	0.1%		
30	0.3%	0.5%	2.1%	2.3%	5.5%	1.6%	1.3%	0.0%		
60	0.0%	0.5%	2.9%	2.6%	4.8%	1.2%	1.3%	0.0%		
90	0.0%	1.5%	3.1%	2.5%	3.6%	1.4%	1.8%	0.0%		

Table C.21 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 46 ft vs. Baseline at 40 ft (SAVBOLS Station)

Layer 6 (Top)	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.1%	2.2%	2.8%	2.4%	1.8%	1.3%	0.3%	0.1%
7	0.0%	2.5%	2.0%	3.0%	1.5%	1.6%	0.2%	0.0%
30	0.0%	2.5%	1.2%	3.6%	1.2%	1.6%	0.3%	0.0%
60	0.1%	1.5%	1.3%	2.9%	1.5%	2.1%	0.0%	0.0%
90	0.1%	2.2%	0.5%	2.3%	1.6%	1.4%	0.0%	0.0%
Layer 5	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.1%	2.3%	2.7%	2.3%	1.6%	1.2%	0.3%	0.1%
7	0.0%	2.5%	2.1%	2.8%	1.4%	1.8%	0.2%	0.0%
30	0.0%	2.3%	1.3%	3.5%	1.2%	1.6%	0.3%	0.0%
60	0.1%	1.5%	1.2%	3.7%	1.4%	2.3%	0.0%	0.0%
90	0.1%	1.9%	0.6%	2.4%	1.6%	1.2%	0.0%	0.0%
Layer 4	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.1%	2.3%	2.6%	2.2%	1.9%	1.2%	0.3%	0.0%
7	0.0%	2.5%	2.1%	2.7%	1.1%	1.9%	0.3%	0.0%
30	0.0%	2.3%	1.5%	3.4%	1.6%	1.9%	0.5%	0.0%
60	0.1%	1.5%	1.2%	4.3%	1.4%	2.6%	0.0%	0.0%
90	0.1%	1.9%	0.5%	2.6%	1.8%	1.1%	0.0%	0.0%
Layer 3	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.1%	2.2%	2.6%	2.2%	1.7%	1.1%	0.4%	0.0%
7	0.0%	2.6%	2.0%	2.7%	1.4%	1.9%	0.3%	0.0%
30	0.0%	2.3%	1.4%	3.9%	1.8%	1.9%	0.6%	0.0%
60	0.1%	1.6%	1.2%	4.2%	1.5%	2.8%	0.0%	0.0%
90	0.1%	1.9%	0.6%	2.7%	2.3%	1.3%	0.0%	0.0%
Layer 2	Salinity (opt) greate	r than		<u> </u>	T	,	,
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.1%	2.2%	2.6%	2.5%	1.6%	1.4%	0.5%	0.0%
7	0.0%	2.6%	2.0%	2.6%	1.6%	2.1%	0.5%	0.0%
30	0.0%	2.3%	1.6%	4.1%	2.3%	1.4%	0.8%	0.0%
60	0.1%	1.7%	1.2%	4.2%	1.4%	2.8%	0.0%	0.0%
90	0.1%	1.9%	0.6%	3.1%	2.6%	1.4%	0.0%	0.0%
Layer 1 (Bottom)		opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.1%	2.2%	2.6%	2.4%	1.9%	1.2%	0.3%	0.0%
7	0.0%	2.6%	2.0%	2.6%	1.6%	2.0%	0.4%	0.0%
30	0.0%	2.2%	1.6%	4.3%	2.6%	1.3%	0.6%	0.0%
60	0.1%	1.8%	1.2%	4.2%	1.2%	3.0%	0.0%	0.0%
90	0.1%	1.8%	0.6%	3.7%	3.1%	1.8%	0.0%	0.0%

Table C.22 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 46 ft vs. Baseline at 40 ft (Buckman Bridge Station)

Layer 6 (Top)	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.9%	2.6%	1.5%	1.9%	0.7%	0.1%	0.0%
7	0.0%	1.3%	2.5%	1.8%	1.6%	0.9%	0.1%	0.0%
30	0.0%	1.9%	1.5%	1.9%	1.1%	0.8%	0.0%	0.0%
60	0.2%	1.1%	2.3%	1.9%	1.3%	0.6%	0.0%	0.0%
90	0.2%	0.7%	2.8%	3.7%	1.1%	2.0%	0.0%	0.0%
Layer 5	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.9%	2.4%	2.3%	1.4%	0.8%	0.2%	0.0%
7	0.0%	1.3%	2.2%	1.8%	2.1%	0.6%	0.2%	0.0%
30	0.0%	2.1%	0.9%	2.1%	1.3%	1.3%	0.0%	0.0%
60	0.2%	1.2%	2.2%	1.3%	2.0%	1.0%	0.0%	0.0%
90	0.1%	0.4%	3.8%	2.5%	1.2%	1.4%	0.0%	0.0%
Layer 4	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.8%	2.2%	1.9%	1.4%	1.3%	0.3%	0.1%
7	0.0%	1.3%	1.9%	2.3%	1.0%	1.5%	0.2%	0.0%
30	0.0%	1.8%	0.9%	1.6%	1.2%	1.4%	0.5%	0.0%
60	0.2%	1.4%	1.7%	1.6%	2.0%	1.6%	0.0%	0.0%
90	0.1%	0.3%	2.3%	1.4%	1.1%	2.0%	0.0%	0.0%
Layer 3	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.8%	2.2%	1.7%	1.6%	1.6%	0.3%	0.0%
7	0.0%	1.3%	2.3%	2.0%	1.5%	1.6%	0.4%	0.1%
30	0.0%	1.9%	0.8%	1.4%	1.2%	1.5%	0.1%	0.0%
60	0.2%	1.4%	1.0%	2.3%	1.0%	2.7%	0.0%	0.0%
90	0.1%	0.2%	1.3%	1.5%	1.4%	1.6%	0.0%	0.0%
Layer 2	Salinity (opt) greate	r than				1	
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.8%	2.2%	1.5%	1.2%	1.6%	0.9%	0.0%
7	0.0%	1.3%	2.2%	1.7%	1.2%	1.5%	0.7%	0.0%
30	0.0%	1.9%	1.6%	1.6%	0.7%	1.4%	0.4%	0.0%
60	0.2%	1.5%	1.2%	3.0%	1.0%	0.9%	0.5%	0.0%
90	0.1%	0.2%	1.9%	2.1%	1.4%	2.1%	0.0%	0.0%
Layer 1 (Bottom)	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.8%	2.2%	1.6%	1.6%	1.7%	0.4%	-0.1%
7	0.0%	1.3%	2.2%	1.9%	1.3%	1.6%	0.4%	0.0%
30	0.0%	1.9%	1.0%	1.5%	1.2%	1.1%	0.4%	0.0%
60	0.2%	1.3%	0.5%	3.7%	1.6%	1.2%	1.1%	0.0%
90	0.1%	0.2%	1.6%	1.3%	3.2%	1.1%	0.0%	0.0%

Table C.23 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 46 ft vs. Baseline at 40 ft (SJRHBP Station)

Layer 6 (Top)	Salinity (opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.1%	1.0%	1.2%	1.1%	0.3%	0.6%	0.0%
7	0.0%	0.1%	1.0%	0.5%	0.9%	0.7%	0.5%	0.0%
30	0.0%	0.1%	1.6%	1.1%	0.8%	1.0%	0.7%	0.0%
60	0.0%	0.3%	0.5%	0.6%	0.9%	0.5%	0.6%	0.0%
90	0.0%	0.1%	1.0%	0.8%	0.9%	1.0%	0.4%	0.0%
Layer 5	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	1.0%	0.9%	0.9%	0.7%	0.7%	0.1%
7	0.0%	0.1%	1.0%	0.8%	1.3%	0.8%	0.7%	0.0%
30	0.0%	0.0%	1.8%	0.7%	0.8%	0.9%	0.4%	0.0%
60	0.0%	0.3%	0.5%	0.4%	0.8%	0.6%	0.5%	0.0%
90	0.0%	0.1%	1.0%	0.8%	1.7%	0.7%	0.7%	0.0%
Layer 4	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.9%	0.8%	0.8%	0.5%	0.8%	0.1%
7	0.0%	0.1%	1.0%	1.0%	0.8%	0.4%	0.5%	0.1%
30	0.0%	0.0%	1.7%	1.0%	0.5%	1.0%	0.5%	0.0%
60	0.0%	0.3%	0.9%	0.6%	0.5%	0.6%	0.3%	0.0%
90	0.0%	0.1%	1.0%	0.7%	1.5%	0.7%	1.6%	0.0%
Layer 3	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.9%	1.0%	0.8%	0.5%	0.7%	-0.1%
7	0.0%	0.1%	0.9%	1.0%	0.5%	0.5%	0.9%	0.1%
30	0.0%	0.0%	1.7%	1.3%	0.5%	1.0%	0.4%	0.0%
60	0.0%	0.3%	0.6%	1.2%	0.7%	0.4%	0.4%	0.0%
90	0.0%	0.1%	1.1%	0.6%	0.6%	0.3%	0.8%	0.0%
Layer 2	Salinity (ppt) greate	r than				1	
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.9%	1.0%	0.8%	0.6%	0.3%	0.0%
7	0.0%	0.1%	1.0%	1.2%	0.7%	0.7%	0.6%	0.1%
30	0.0%	0.0%	1.9%	1.2%	0.6%	1.0%	0.4%	0.1%
60	0.0%	0.3%	0.5%	1.1%	0.6%	0.9%	0.3%	0.0%
90	0.0%	0.0%	1.1%	0.6%	0.5%	0.2%	0.6%	0.0%
Layer 1 (Bottom)	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.9%	1.0%	0.8%	0.7%	0.5%	0.2%
7	0.0%	0.1%	1.0%	1.0%	0.6%	0.5%	0.6%	0.0%
30	0.0%	0.0%	2.7%	1.2%	0.5%	0.8%	0.3%	0.2%
60	0.0%	0.3%	0.5%	0.7%	1.8%	1.0%	0.6%	0.0%
90	0.0%	0.0%	1.1%	0.5%	0.5%	0.4%	0.4%	0.0%

Table C.24 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 46 ft vs. Baseline at 40 ft (Shands Bridge Station)

Layer 6 (Top)	Salinity (opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.4%	0.1%	0.1%	0.0%	-0.1%	0.0%
7	0.0%	0.0%	0.2%	0.2%	0.1%	0.1%	0.0%	0.0%
30	0.0%	0.0%	0.4%	0.3%	0.1%	0.0%	0.0%	0.0%
60	0.0%	0.0%	0.3%	0.2%	0.3%	0.0%	0.0%	0.0%
90	0.0%	0.0%	0.4%	0.1%	0.1%	0.0%	0.0%	0.0%
Layer 5	Salinity (opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.3%	0.1%	0.0%	0.1%	-0.1%	0.0%
7	0.0%	0.0%	0.2%	0.5%	0.1%	0.1%	0.0%	0.0%
30	0.0%	0.0%	0.4%	0.2%	0.1%	0.0%	0.0%	0.0%
60	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	0.0%
90	0.0%	0.0%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%
Layer 4	Salinity (opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.4%	0.1%	0.1%	0.0%	0.1%	0.0%
7	0.0%	0.0%	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%
30	0.0%	0.0%	0.3%	0.3%	0.1%	0.1%	0.0%	0.0%
60	0.0%	0.0%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%
90	0.0%	0.0%	0.4%	0.2%	0.1%	0.0%	0.0%	0.0%
Layer 3	Salinity (opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%
7	0.0%	0.0%	0.3%	0.1%	0.0%	0.0%	-0.1%	0.0%
30	0.0%	0.0%	0.4%	0.2%	0.1%	0.0%	-0.1%	0.0%
60	0.0%	0.0%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%
90	0.0%	0.0%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%
Layer 2	Salinity (opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.4%	0.1%	-0.1%	0.0%	0.1%	0.0%
7	0.0%	0.0%	0.3%	0.1%	0.1%	0.0%	0.0%	0.0%
30	0.0%	0.0%	0.4%	0.2%	0.0%	0.0%	-0.1%	0.0%
60	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
90	0.0%	0.0%	0.4%	0.2%	0.0%	-0.3%	0.0%	0.0%
Layer 1 (Bottom)	Salinity (opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.4%	0.1%	0.0%	0.0%	-0.1%	0.0%
7	0.0%	0.0%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%
30	0.0%	0.0%	0.4%	0.2%	0.0%	0.1%	-0.1%	0.0%
60	0.0%	0.0%	0.2%	0.1%	0.0%	-0.1%	0.0%	0.0%
90	0.0%	0.0%	0.4%	0.0%	0.0%	-0.7%	0.0%	0.0%

Table C.25 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 50 ft vs. Baseline at 40 ft (Dames Point Station)

Layer 6 (Top)	Salinity (opt) greate	r than						
Moving Average Period (day)	3	5	10	15	20	25	30	35	
1	0.5%	0.3%	2.2%	4.2%	3.8%	2.6%	-0.1%	0.0%	
7	0.3%	0.5%	1.6%	4.3%	4.7%	2.8%	0.0%	0.0%	
30	0.0%	0.3%	1.2%	5.9%	4.4%	3.4%	0.0%	0.0%	
60	0.0%	0.0%	2.1%	2.8%	4.2%	2.8%	0.0%	0.0%	
90	0.0%	0.0%	1.0%	1.7%	3.0%	1.6%	0.0%	0.0%	
Layer 5	Salinity (opt) greate	r than						
Moving Average Period (day)	3	5	10	15	20	25	30	35	
1	0.0%	0.3%	0.5%	1.3%	1.1%	-0.7%	-0.9%	0.0%	
7	0.0%	0.3%	0.4%	1.4%	0.5%	-1.0%	-0.7%	0.0%	
60	0.0%	0.0%	0.7%	0.7%	1.0%	-0.3%	-0.4%	0.0%	
90	0.0%	0.0%	0.0%	1.0%	0.8%	-0.2%	0.0%	0.0%	
Layer 4	Salinity (ppt) greater than								
Moving Average Period (day)	3	5	10	15	20	25	30	35	
1	0.0%	0.1%	0.2%	0.5%	0.1%	-1.4%	-1.7%	0.0%	
7	0.0%	0.0%	0.4%	0.3%	-0.2%	-1.5%	-1.3%	0.0%	
30	0.0%	0.0%	0.4%	0.3%	-0.3%	-1.6%	-0.8%	0.0%	
60	0.0%	0.0%	0.0%	1.0%	-0.3%	-1.5%	-0.2%	0.0%	
90	0.0%	0.0%	0.0%	0.3%	0.0%	-0.8%	-0.5%	0.0%	
Layer 3	Salinity (ppt) greater than								
Moving Average Period (day)	3	5	10	15	20	25	30	35	
1	0.0%	0.0%	0.3%	0.1%	-0.3%	-1.4%	-1.7%	0.0%	
7	0.0%	0.0%	0.1%	0.0%	-0.7%	-1.7%	-1.2%	0.0%	
30	0.0%	0.0%	0.0%	0.2%	-0.4%	-2.0%	-1.2%	0.0%	
60	0.0%	0.0%	0.0%	0.0%	-0.3%	-2.6%	-3.0%	0.0%	
90	0.0%	0.0%	0.0%	0.0%	-0.2%	-1.7%	-0.7%	0.0%	
Layer 2	Salinity (opt) greate	r than						
Moving Average Period (day)	3	5	10	15	20	25	30	35	
1	0.0%	0.0%	0.2%	0.3%	-0.2%	-1.9%	-1.8%	0.0%	
7	0.0%	0.0%	0.3%	0.1%	-0.3%	-2.1%	-1.5%	0.0%	
30	0.0%	0.0%	0.0%	0.1%	-0.2%	-1.3%	-2.0%	0.0%	
60	0.0%	0.0%	0.0%	0.0%	0.0%	-3.4%	-0.8%	0.0%	
90	0.0%	0.0%	0.0%	0.0%	0.0%	-1.5%	-1.1%	0.0%	
Layer 1 (Bottom)	Salinity (opt) greate	r than						
Moving Average Period (day)	3	5	10	15	20	25	30	35	
1	0.0%	0.0%	0.3%	0.3%	-0.1%	-1.4%	-3.1%	0.0%	
7	0.0%	0.0%	0.0%	0.3%	-0.1%	-2.6%	-2.6%	0.0%	
30	0.0%	0.0%	0.0%	0.1%	0.0%	-2.1%	-1.9%	0.0%	
60	0.0%	0.0%	0.0%	0.0%	0.0%	-2.5%	-3.2%	0.0%	
90	0.0%	0.0%	0.0%	0.0%	0.0%	-0.8%	-2.3%	0.0%	

Table C.26 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 50 ft vs. Baseline at 40 ft (Acosta Bridge Station)

Layer 6 (Top)	Salinity ((ppt) great	ter than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	2.9%	4.1%	4.2%	2.8%	1.7%	0.3%	0.0%	0.0%
7	2.8%	3.5%	4.9%	4.0%	1.6%	0.0%	0.0%	0.0%
30	2.1%	6.9%	4.7%	5.3%	1.9%	0.0%	0.0%	0.0%
60	3.6%	3.2%	5.0%	3.3%	2.3%	0.0%	0.0%	0.0%
90	4.6%	1.7%	4.3%	3.9%	0.0%	0.0%	0.0%	0.0%
Layer 5	Salinity ((ppt) great	ter than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	3.0%	3.4%	4.3%	2.9%	1.8%	0.3%	0.0%	0.0%
7	2.5%	4.0%	4.9%	3.9%	2.2%	0.3%	0.0%	0.0%
60	1.3%	3.6%	7.9%	2.8%	2.4%	0.0%	0.0%	0.0%
90	1.0%	2.6%	5.2%	2.7%	3.8%	0.0%	0.0%	0.0%
Layer 4	Salinity ((ppt) great	ter than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	2.8%	2.8%	5.2%	3.6%	2.3%	0.5%	0.0%	0.0%
7	1.9%	3.4%	4.2%	3.2%	2.5%	0.1%	0.0%	0.0%
30	1.3%	4.2%	4.3%	3.1%	2.3%	0.0%	0.0%	0.0%
60	2.1%	2.9%	5.9%	4.0%	1.7%	0.0%	0.0%	0.0%
90	0.5%	2.2%	10.5%	2.8%	3.6%	0.0%	0.0%	0.0%
Layer 3	Salinity ((ppt) great	ter than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	2.8%	2.7%	5.2%	4.6%	2.4%	0.3%	0.0%	0.0%
7	1.8%	3.2%	4.5%	3.1%	3.3%	0.2%	0.0%	0.0%
30	1.1%	2.9%	3.5%	2.6%	1.9%	0.0%	0.0%	0.0%
60	1.8%	2.2%	4.9%	4.5%	1.9%	0.0%	0.0%	0.0%
90	0.9%	2.9%	11.4%	2.8%	4.4%	0.0%	0.0%	0.0%
Layer 2	Salinity (ppt) great	ter than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	2.6%	3.1%	5.5%	4.6%	2.9%	0.5%	0.0%	0.0%
7	2.0%	2.9%	4.8%	3.4%	2.7%	0.2%	0.0%	0.0%
30	1.0%	2.3%	3.5%	2.6%	2.6%	0.0%	0.0%	0.0%
60	1.4%	2.4%	5.1%	3.8%	2.3%	0.0%	0.0%	0.0%
90	0.9%	3.4%	10.7%	3.7%	3.8%	0.0%	0.0%	0.0%
Layer 1 (Bottom)	Salinity (ppt) great	ter than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	2.4%	3.1%	5.5%	4.3%	2.4%	0.5%	0.0%	0.0%
7	2.2%	2.8%	4.6%	3.1%	3.2%	0.3%	0.0%	0.0%
30	1.1%	2.1%	3.6%	2.8%	3.1%	0.0%	0.0%	0.0%
60	1.2%	2.7%	5.5%	2.6%	3.2%	0.0%	0.0%	0.0%
90	1.0%	3.6%	10.0%	3.9%	3.2%	0.0%	0.0%	0.0%

Table C.27 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 50 ft vs. Baseline at 40 ft (SAVPTLV Station)

Layer 6 (Top)	Salinity (opt) greate	r than						
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20	
1	0.3%	2.0%	2.9%	4.4%	4.1%	2.8%	2.1%	0.3%	
7	0.3%	1.2%	2.4%	4.3%	4.2%	4.5%	2.1%	0.2%	
30	0.1%	1.4%	1.9%	2.3%	7.3%	2.4%	1.2%	0.0%	
60	0.0%	0.3%	1.4%	3.9%	7.4%	3.1%	2.2%	0.0%	
90	0.0%	0.4%	2.0%	3.6%	5.8%	2.8%	2.5%	0.0%	
Layer 5	Salinity (opt) greate	r than						
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20	
1	0.2%	2.0%	2.8%	4.3%	3.8%	2.9%	1.9%	0.3%	
7	0.3%	1.3%	2.4%	4.8%	4.7%	3.6%	1.7%	0.2%	
60	0.0%	0.1%	1.2%	3.4%	7.8%	2.3%	2.3%	0.0%	
90	0.0%	0.0%	1.7%	3.7%	6.8%	2.6%	2.6%	0.0%	
Layer 4	Salinity (Salinity (ppt) greater than							
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20	
1	0.2%	2.0%	2.8%	4.4%	3.9%	3.2%	1.9%	0.5%	
7	0.3%	1.3%	2.4%	4.9%	4.1%	3.1%	2.1%	0.4%	
30	0.1%	0.9%	1.8%	2.3%	4.8%	3.2%	2.0%	0.0%	
60	0.0%	0.2%	1.1%	3.1%	8.0%	2.3%	1.9%	0.0%	
90	0.0%	0.0%	1.2%	3.5%	9.7%	2.5%	2.7%	0.0%	
Layer 3	Salinity (opt) greate	r than						
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20	
1	0.2%	2.0%	2.7%	4.4%	4.1%	3.3%	1.8%	0.6%	
7	0.3%	1.4%	2.3%	4.7%	4.0%	3.2%	2.3%	0.4%	
30	0.0%	0.8%	1.7%	2.4%	4.3%	3.2%	2.1%	0.0%	
60	0.0%	0.2%	1.1%	2.9%	6.4%	2.7%	1.6%	0.0%	
90	0.0%	0.0%	1.0%	3.3%	10.9%	2.3%	2.7%	0.0%	
Layer 2	Salinity (opt) greate	r than						
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20	
1	0.2%	2.1%	2.6%	4.5%	4.2%	3.1%	1.9%	0.6%	
7	0.3%	1.3%	2.3%	4.7%	4.0%	3.0%	2.0%	0.4%	
30	0.0%	0.8%	1.6%	2.5%	4.0%	3.1%	2.3%	0.0%	
60	0.0%	0.2%	1.1%	2.6%	6.1%	2.9%	1.6%	0.0%	
90	0.0%	0.0%	0.5%	3.3%	10.9%	2.3%	2.8%	0.0%	
Layer 1 (Bottom)	Salinity (ppt) greater than								
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20	
1	0.2%	2.1%	2.6%	4.6%	4.2%	3.1%	1.9%	0.6%	
7	0.3%	1.3%	2.4%	4.6%	4.0%	3.1%	2.1%	0.4%	
30	0.0%	0.7%	1.7%	2.5%	3.7%	3.1%	2.3%	0.0%	
60	0.0%	0.3%	1.1%	2.6%	6.3%	3.0%	1.5%	0.0%	
90	0.0%	0.0%	0.6%	3.3%	10.6%	2.2%	2.9%	0.0%	

Table C.28 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 50 ft vs. Baseline at 40 ft (JAXSJR40 Station)

Layer 6 (Top)	Salinity (opt) greate	r than								
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20			
1	0.3%	2.6%	3.6%	4.4%	3.0%	3.1%	2.0%	0.2%			
7	0.2%	2.7%	4.4%	4.4%	3.8%	2.9%	1.7%	0.1%			
30	0.3%	0.5%	2.8%	2.5%	3.4%	4.5%	1.7%	0.0%			
60	0.3%	1.6%	4.2%	4.7%	4.7%	2.9%	2.2%	0.0%			
90	0.0%	0.1%	2.6%	7.0%	3.4%	2.2%	0.0%	0.0%			
Layer 5	Salinity (opt) greate	r than								
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20			
1	0.3%	2.6%	3.5%	4.5%	3.2%	3.3%	1.6%	0.2%			
7	0.2%	2.9%	4.5%	3.9%	4.2%	3.2%	2.4%	0.3%			
60	0.1%	1.4%	4.9%	4.9%	4.6%	2.7%	1.3%	0.0%			
90	0.0%	0.5%	2.9%	5.5%	3.2%	3.7%	1.1%	0.0%			
Layer 4	Salinity (Salinity (ppt) greater than									
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20			
1	0.3%	2.7%	3.4%	4.4%	3.2%	2.4%	1.5%	0.3%			
7	0.2%	2.7%	4.0%	3.4%	4.0%	3.6%	1.6%	0.2%			
30	0.4%	0.7%	2.6%	2.5%	5.7%	3.2%	1.4%	0.0%			
60	0.1%	1.0%	5.3%	4.7%	4.3%	3.0%	1.0%	0.0%			
90	0.0%	0.6%	4.2%	5.5%	2.7%	3.4%	2.8%	0.0%			
Layer 3	Salinity (Salinity (ppt) greater than									
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20			
1	0.3%	2.4%	3.2%	4.3%	3.9%	2.4%	1.6%	0.3%			
7	0.3%	2.6%	3.3%	4.4%	4.6%	3.5%	1.9%	0.3%			
30	0.5%	1.0%	2.4%	2.9%	7.0%	2.4%	1.4%	0.0%			
60	0.1%	0.8%	4.6%	3.8%	6.1%	3.2%	1.8%	0.0%			
90	0.0%	1.4%	4.5%	4.7%	4.4%	2.9%	2.4%	0.0%			
Layer 2		ppt) greate	r than	1			1	1			
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20			
1	0.3%	2.4%	2.9%	4.6%	3.8%	3.1%	2.0%	0.5%			
7	0.3%	2.8%	3.2%	4.9%	4.7%	3.1%	1.9%	0.2%			
30	0.5%	1.1%	2.7%	2.9%	7.6%	2.4%	2.2%	0.0%			
60	0.0%	0.5%	3.7%	3.9%	6.0%	2.0%	2.2%	0.0%			
90	0.0%	1.7%	4.4%	3.6%	4.9%	2.4%	2.6%	0.0%			
Layer 1 (Bottom)	Salinity (ppt) greate	r than	1			1	1			
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20			
1	0.3%	2.4%	3.0%	4.4%	3.9%	3.0%	2.0%	0.2%			
7	0.3%	2.6%	3.4%	4.8%	4.5%	2.6%	1.9%	0.1%			
30	0.5%	1.3%	2.8%	3.0%	7.6%	2.4%	1.6%	0.0%			
60	0.0%	0.5%	3.2%	3.7%	6.9%	1.6%	1.7%	0.0%			
90	0.0%	1.6%	4.4%	3.5%	5.4%	1.9%	2.7%	0.0%			

Table C.29 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 50 ft vs. Baseline at 40 ft (SAVBOLS Station)

Layer 6 (Top)	Salinity (ppt) greate	r than							
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.1%	3.1%	3.8%	3.3%	2.4%	2.0%	0.5%	0.1%		
7	0.0%	3.5%	2.9%	3.8%	2.1%	2.2%	0.3%	0.0%		
30	0.0%	2.7%	2.2%	5.4%	1.8%	2.2%	0.5%	0.0%		
60	0.1%	2.5%	1.5%	4.8%	1.9%	2.9%	0.0%	0.0%		
90	0.1%	2.6%	0.9%	3.0%	2.3%	1.8%	0.0%	0.0%		
Layer 5	Salinity (ppt) greate	r than							
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.1%	3.1%	3.8%	3.4%	2.2%	1.8%	0.5%	0.1%		
7	0.0%	3.5%	3.0%	3.6%	2.0%	2.6%	0.5%	0.0%		
60	0.1%	2.6%	1.5%	5.2%	1.9%	3.2%	0.0%	0.0%		
90	0.1%	2.3%	0.9%	3.8%	2.9%	1.7%	0.0%	0.0%		
Layer 4	Salinity (Salinity (ppt) greater than								
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.1%	3.1%	3.9%	3.4%	2.6%	2.0%	0.4%	0.0%		
7	0.0%	3.5%	3.0%	3.5%	2.0%	2.7%	0.5%	0.0%		
30	0.0%	2.7%	2.2%	5.4%	2.4%	2.4%	0.9%	0.0%		
60	0.1%	2.9%	1.5%	6.0%	1.9%	3.3%	0.0%	0.0%		
90	0.1%	2.3%	0.8%	4.6%	3.6%	1.9%	0.0%	0.0%		
Layer 3	Salinity (ppt) greate	r than							
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.1%	3.0%	3.9%	3.2%	2.5%	1.9%	0.6%	0.0%		
7	0.0%	3.6%	2.9%	3.6%	2.2%	2.7%	0.5%	0.0%		
30	0.0%	2.6%	2.2%	5.7%	3.1%	2.4%	1.0%	0.0%		
60	0.1%	3.0%	1.5%	5.7%	2.0%	3.4%	0.0%	0.0%		
90	0.1%	2.2%	0.8%	4.7%	4.1%	2.1%	0.0%	0.0%		
Layer 2		ppt) greate	r than							
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.1%	3.0%	3.8%	3.4%	2.8%	2.1%	0.7%	0.0%		
7	0.0%	3.7%	3.0%	3.4%	2.3%	2.8%	0.5%	0.0%		
30	0.0%	2.6%	2.5%	6.2%	3.2%	2.2%	1.0%	0.0%		
60	0.1%	3.1%	1.5%	5.8%	2.1%	4.1%	0.0%	0.0%		
90	0.1%	2.2%	0.8%	4.4%	4.5%	2.5%	0.0%	0.0%		
Layer 1 (Bottom)	Salinity (ppt) greate	r than							
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.1%	3.0%	3.8%	3.3%	2.7%	2.2%	0.6%	0.0%		
7	0.0%	3.7%	3.0%	3.3%	2.4%	2.9%	0.4%	0.0%		
30	0.0%	2.6%	2.7%	6.2%	3.6%	2.3%	0.8%	0.0%		
60	0.1%	3.0%	1.5%	6.3%	2.3%	4.1%	0.0%	0.0%		
90	0.1%	2.1%	0.8%	5.3%	4.9%	2.5%	0.0%	0.0%		

Table C.30 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 50 ft vs. Baseline at 40 ft (Buckman Bridge Station)

Layer 6 (Top)	Salinity (ppt) greate	r than						
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20	
1	0.2%	2.7%	3.4%	2.4%	2.6%	1.1%	0.2%	0.0%	
7	0.0%	2.1%	3.8%	2.5%	2.1%	1.3%	0.2%	0.0%	
30	0.1%	2.6%	1.9%	2.6%	1.5%	1.1%	0.0%	0.0%	
60	0.3%	1.7%	3.2%	2.6%	1.9%	1.0%	0.0%	0.0%	
90	0.2%	0.8%	4.1%	4.3%	1.5%	2.6%	0.0%	0.0%	
Layer 5	Salinity (ppt) greate	r than						
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20	
1	0.2%	2.7%	3.4%	3.2%	1.9%	1.4%	0.4%	0.0%	
7	0.0%	2.0%	2.9%	2.9%	2.7%	1.0%	0.3%	0.0%	
60	0.3%	1.9%	3.0%	1.9%	2.4%	1.3%	0.0%	0.0%	
90	0.2%	0.5%	4.6%	3.3%	1.6%	2.3%	0.0%	0.0%	
Layer 4	Salinity (ppt) greater than								
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20	
1	0.2%	2.7%	3.2%	2.6%	2.0%	2.0%	0.5%	0.1%	
7	0.0%	2.0%	2.6%	3.0%	1.7%	2.0%	0.3%	0.0%	
30	0.1%	2.5%	1.2%	2.1%	1.6%	1.7%	0.8%	0.0%	
60	0.3%	1.7%	2.2%	2.3%	2.5%	2.7%	0.0%	0.0%	
90	0.2%	0.4%	2.9%	2.1%	1.6%	2.4%	0.0%	0.0%	
Layer 3	Salinity (ppt) greate	r than						
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20	
1	0.2%	2.7%	3.2%	2.3%	2.1%	2.1%	0.5%	0.0%	
7	0.0%	2.0%	3.1%	2.5%	1.9%	2.2%	0.6%	0.1%	
30	0.1%	2.4%	1.4%	1.9%	1.4%	2.1%	0.3%	0.0%	
60	0.3%	1.9%	1.6%	3.4%	1.3%	3.6%	0.0%	0.0%	
90	0.2%	0.3%	2.4%	2.1%	1.9%	2.3%	0.0%	0.0%	
Layer 2	Salinity (ppt) greate	r than						
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20	
1	0.2%	2.7%	3.3%	2.0%	1.8%	2.2%	1.1%	0.1%	
7	0.0%	2.1%	3.0%	2.3%	1.6%	1.8%	0.8%	0.0%	
30	0.1%	2.4%	2.0%	2.4%	1.1%	1.9%	0.5%	0.0%	
60	0.3%	2.0%	1.5%	3.7%	1.4%	1.3%	0.6%	0.0%	
90	0.2%	0.3%	2.6%	2.5%	2.1%	2.4%	0.0%	0.0%	
Layer 1 (Bottom)	Salinity (ppt) greater than								
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20	
1	0.2%	2.7%	3.3%	1.8%	2.1%	1.9%	0.4%	0.0%	
7	0.0%	2.1%	3.1%	2.3%	1.8%	1.9%	0.6%	0.0%	
30	0.1%	2.4%	1.5%	2.2%	2.1%	1.5%	0.6%	0.0%	
60	0.3%	1.8%	0.9%	4.3%	1.9%	1.5%	1.3%	0.0%	
90	0.2%	0.3%	2.3%	1.7%	3.7%	1.5%	0.0%	0.0%	

Table C.31 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 50 ft vs. Baseline at 40 ft (SJRHBP Station)

Layer 6 (Top)	Salinity (opt) greate	r than							
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10		
1	0.0%	0.1%	1.3%	1.4%	1.2%	0.4%	0.6%	0.0%		
7	0.0%	0.1%	1.4%	1.0%	1.3%	0.8%	0.6%	0.0%		
30	0.0%	0.1%	2.1%	1.6%	1.1%	1.2%	0.8%	0.0%		
60	0.0%	0.4%	0.7%	0.7%	1.2%	0.7%	0.8%	0.0%		
90	0.0%	0.1%	1.6%	1.1%	1.9%	1.1%	0.5%	0.0%		
Layer 5	Salinity (opt) greate	r than							
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10		
1	0.0%	0.0%	1.3%	1.2%	1.0%	0.9%	1.0%	0.2%		
7	0.0%	0.1%	1.4%	1.2%	1.3%	1.0%	0.8%	0.0%		
60	0.0%	0.4%	1.1%	0.5%	1.0%	0.7%	0.5%	0.0%		
90	0.0%	0.1%	1.3%	1.0%	2.1%	0.9%	1.1%	0.0%		
Layer 4	Salinity (Salinity (ppt) greater than								
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10		
1	0.0%	0.0%	1.1%	1.2%	0.8%	0.6%	0.8%	0.1%		
7	0.0%	0.1%	1.4%	1.3%	1.0%	0.5%	0.8%	0.1%		
30	0.0%	0.1%	2.1%	1.5%	0.6%	1.4%	0.5%	0.0%		
60	0.0%	0.5%	1.9%	1.2%	0.7%	0.6%	0.5%	0.0%		
90	0.0%	0.1%	1.4%	0.9%	1.6%	0.9%	2.0%	0.0%		
Layer 3	Salinity (Salinity (ppt) greater than								
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10		
1	0.0%	0.0%	1.1%	1.4%	1.1%	0.6%	0.9%	0.0%		
7	0.0%	0.1%	1.3%	1.5%	0.7%	0.8%	1.1%	0.1%		
30	0.0%	0.1%	2.0%	1.3%	0.7%	1.5%	0.5%	0.0%		
60	0.0%	0.5%	2.1%	1.5%	0.9%	0.5%	0.5%	0.0%		
90	0.0%	0.1%	1.4%	0.7%	0.7%	0.5%	1.0%	0.0%		
Layer 2	Salinity (opt) greate	r than							
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10		
1	0.0%	0.0%	1.1%	1.4%	0.9%	0.9%	0.6%	0.0%		
7	0.0%	0.1%	1.4%	1.5%	0.9%	0.8%	0.8%	0.1%		
30	0.0%	0.1%	2.6%	1.3%	0.8%	1.1%	0.5%	0.1%		
60	0.0%	0.5%	1.9%	1.3%	1.2%	1.1%	0.5%	0.0%		
90	0.0%	0.1%	1.6%	0.8%	0.7%	0.3%	0.6%	0.0%		
Layer 1 (Bottom)	Salinity (opt) greate	r than							
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10		
1	0.0%	0.0%	1.1%	1.4%	0.9%	0.8%	0.6%	0.1%		
7	0.0%	0.1%	1.4%	1.3%	0.7%	0.6%	0.9%	0.0%		
30	0.0%	0.1%	3.5%	1.2%	0.6%	1.0%	0.4%	0.1%		
60	0.0%	0.5%	1.8%	1.0%	2.0%	1.2%	0.7%	0.0%		
90	0.0%	0.1%	1.6%	0.7%	0.7%	0.7%	0.5%	0.0%		

Table C.32 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 50 ft vs. Baseline at 40 ft (Shands Bridge Station)

Layer 6 (Top)	Salinity (r	opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.5%	0.2%	0.0%	-0.3%	0.0%	0.0%
7	0.0%	0.0%	0.4%	0.4%	0.0%	-0.2%	0.0%	0.0%
30	0.0%	0.0%	0.6%	0.3%	0.0%	0.0%	0.0%	0.0%
60	0.0%	0.0%	0.5%	0.1%	0.3%	-0.1%	0.0%	0.0%
90	0.0%	0.0%	0.6%	0.2%	0.0%	0.0%	0.0%	0.0%
Layer 5	Salinity (opt) greate	r than				l.	
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.5%	0.2%	-0.1%	0.0%	0.0%	0.0%
7	0.0%	0.0%	0.4%	0.6%	0.1%	-0.1%	0.0%	0.0%
30	0.0%	0.0%	0.6%	0.2%	0.0%	-0.1%	0.0%	0.0%
60	0.0%	0.0%	0.3%	0.2%	0.3%	-0.1%	0.0%	0.0%
90	0.0%	0.0%	0.5%	0.1%	-0.2%	0.0%	0.0%	0.0%
Layer 4	Salinity (opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.5%	0.2%	-0.1%	-0.1%	0.0%	0.0%
7	0.0%	0.0%	0.4%	0.3%	-0.1%	-0.1%	0.0%	0.0%
30	0.0%	0.0%	0.5%	0.3%	0.1%	0.0%	0.0%	0.0%
60	0.0%	0.0%	0.2%	0.0%	0.1%	-0.1%	0.0%	0.0%
90	0.0%	0.0%	0.5%	0.1%	-0.1%	0.0%	0.0%	0.0%
Layer 3	Salinity (opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.4%	0.2%	-0.3%	-0.1%	-0.2%	0.0%
7	0.0%	0.0%	0.4%	0.2%	0.0%	-0.2%	-0.2%	0.0%
30	0.0%	0.0%	0.5%	0.3%	0.0%	-0.1%	-0.1%	0.0%
60	0.0%	0.0%	0.2%	0.0%	0.0%	-0.3%	0.0%	0.0%
90	0.0%	0.0%	0.4%	-0.3%	-0.1%	0.0%	0.0%	0.0%
Layer 2		opt) greate	r than				T	
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.4%	0.3%	-0.4%	-0.1%	0.0%	0.0%
7	0.0%	0.0%	0.4%	0.1%	0.0%	-0.2%	-0.1%	0.0%
30	0.0%	0.0%	0.6%	0.1%	0.0%	0.0%	-0.3%	0.0%
60	0.0%	0.0%	0.2%	0.0%	0.0%	-0.2%	0.0%	0.0%
90	0.0%	0.0%	0.4%	-1.0%	-0.1%	-1.6%	0.0%	0.0%
Layer 1 (Bottom)	1	opt) greate						
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.4%	0.3%	-0.3%	-0.1%	-0.1%	0.0%
7	0.0%	0.0%	0.4%	0.1%	-0.1%	-0.2%	-0.2%	0.0%
30	0.0%	0.0%	0.6%	0.1%	0.0%	-0.1%	-0.3%	0.0%
60	0.0%	0.0%	0.2%	0.1%	-0.1%	-0.2%	0.0%	0.0%
90	0.0%	0.0%	0.4%	-0.3%	-0.2%	-1.8%	0.0%	0.0%

Summary of Comparisons of
Project at 44 ft, 46 ft, and 50 ft Alternatives Water Age
and
Baseline at 40 ft Water Age
(Deepening Only)

Table C.33 Percent of Time Model Results Exceeds Water Age for Baseline at 40 ft (Dames Point Station)

Daily water age (day) greater than

Model Layer	30	60	90	120	150	180	210	240
6 (Top)	100.00%	98.72%	91.83%	75.59%	36.04%	13.41%	1.55%	0.00%
5	100.00%	99.64%	94.48%	79.06%	37.64%	13.18%	0.41%	0.00%
4	100.00%	99.91%	96.94%	81.52%	38.09%	13.18%	0.05%	0.00%
3	100.00%	100.00%	98.04%	82.76%	37.96%	13.09%	0.00%	0.00%
2	100.00%	100.00%	98.77%	83.39%	37.96%	13.05%	0.00%	0.00%
1 (bottom)	100.00%	100.00%	99.41%	84.35%	38.69%	13.32%	0.00%	0.00%

Table C.34 Percent of Time Model Results Exceeds Water Age for Baseline at 40 ft (Acosta Bridge Station)

Daily water age (day) greater than

	- a , a.e.	0 (//						
Model Layer	30	60	90	120	150	180	210	240
6 (Top)	100.00%	95.39%	83.62%	63.87%	37.32%	18.07%	5.38%	0.00%
5	100.00%	95.80%	84.53%	66.24%	37.18%	17.52%	5.25%	0.00%
4	100.00%	95.89%	85.17%	67.06%	37.14%	17.20%	5.06%	0.00%
3	100.00%	96.12%	85.68%	67.38%	37.04%	17.06%	4.84%	0.00%
2	100.00%	96.35%	85.95%	67.97%	37.09%	16.83%	4.70%	0.00%
1 (bottom)	100.00%	96.35%	86.31%	68.25%	37.09%	16.70%	4.70%	0.00%

Table C.35 Percent of Time Model Results Exceeds Water Age for Baseline at 40 ft (SAVPTLV Station)

Daily water age (day) greater than

Model Layer	30	60	90	120	150	180	210	240
6 (Top)	100.00%	94.34%	80.93%	57.76%	37.32%	19.11%	6.07%	0.00%
5	100.00%	94.39%	81.02%	58.39%	37.32%	19.11%	6.02%	0.00%
4	100.00%	94.39%	81.34%	58.85%	37.32%	19.02%	5.98%	0.00%
3	100.00%	94.39%	81.48%	59.08%	37.27%	19.02%	5.93%	0.00%
2	100.00%	94.39%	81.48%	59.22%	37.27%	19.02%	5.93%	0.00%
1 (bottom)	100.00%	94.39%	81.52%	59.31%	37.27%	19.07%	5.93%	0.00%

Table C.36 Percent of Time Model Results Exceeds Water Age for Baseline at 40 ft (JAXSJR40 Station)

Daily water age (day) greater than

Model Layer	30	60	90	120	150	180	210	240
6 (Top)	100.00%	93.07%	79.33%	54.20%	36.27%	18.57%	6.39%	0.00%
5	100.00%	93.11%	79.56%	55.16%	36.45%	18.52%	6.34%	0.00%
4	100.00%	93.11%	79.70%	55.93%	36.54%	18.48%	6.30%	0.00%
3	100.00%	93.11%	79.79%	56.75%	36.72%	18.52%	6.25%	0.00%
2	100.00%	93.20%	80.02%	57.44%	36.72%	18.57%	6.16%	0.00%
1 (bottom)	100.00%	93.20%	80.25%	57.85%	36.86%	18.57%	6.16%	0.00%

Table C.37 Percent of Time Model Results Exceeds Water Age for Baseline at 40 ft (SAVBOLS Station)

Daily water age (day) greater than

Model Layer	30	60	90	120	150	180	210	240
6 (Top)	100.00%	93.20%	78.06%	52.28%	35.77%	18.75%	6.34%	0.00%
5	100.00%	93.20%	78.06%	52.37%	35.90%	18.80%	6.34%	0.00%
4	100.00%	93.20%	78.06%	52.37%	36.04%	18.80%	6.34%	0.00%
3	100.00%	93.20%	78.10%	52.46%	36.04%	18.80%	6.30%	0.00%
2	100.00%	93.25%	78.15%	52.46%	36.09%	18.80%	6.30%	0.00%
1 (bottom)	100.00%	93.25%	78.15%	52.51%	36.13%	18.80%	6.30%	0.00%

Table C.38 Percent of Time Model Results Exceeds Water Age for Baseline at 40 ft (Buckman Bridge Station)

Daily water age (day) greater than

	Duny Mater age (ady) Breater than								
Model Layer	30	60	90	120	150	180	210	240	
6 (Top)	100.00%	90.47%	73.36%	48.81%	32.48%	18.80%	5.66%	0.00%	
5	100.00%	90.47%	73.45%	49.68%	33.03%	18.52%	6.20%	0.00%	
4	100.00%	90.47%	73.63%	50.55%	33.35%	18.43%	6.34%	0.00%	
3	100.00%	90.47%	73.72%	51.28%	33.71%	18.52%	6.34%	0.00%	
2	100.00%	90.47%	73.81%	51.87%	34.17%	18.66%	6.39%	0.00%	
1 (bottom)	100.00%	90.47%	73.91%	52.60%	34.31%	18.66%	6.39%	0.00%	

Table C.39 Percent of Time Model Results Exceeds Water Age for Baseline at 40 ft (SJRHBP Station)

Daily water age (day) greater than

Model Layer	30	60	90	120	150	180	210	240
6 (Top)	99.18%	85.58%	59.81%	41.15%	24.13%	12.23%	0.73%	0.00%
5	99.18%	85.58%	59.99%	41.20%	24.22%	13.59%	0.91%	0.00%
4	99.18%	85.63%	60.08%	41.33%	24.45%	14.46%	1.37%	0.00%
3	99.18%	85.68%	60.17%	41.51%	24.59%	15.10%	1.55%	0.00%
2	99.18%	85.68%	60.17%	41.56%	24.73%	15.60%	1.78%	0.00%
1 (bottom)	99.18%	85.68%	60.17%	41.56%	24.82%	15.56%	1.78%	0.00%

Table C.40 Percent of Time Model Results Exceeds Water Age for Baseline at 40 ft (Shands Bridge Station)

Daily water age (day) greater than

Model Layer	30	60	90	120	150	180	210	240	
6 (Top)	99.50%	84.58%	54.38%	36.72%	21.58%	9.31%	1.14%	0.00%	
5	99.50%	84.58%	54.38%	36.72%	21.58%	9.49%	1.14%	0.00%	
4	99.50%	84.58%	54.38%	36.77%	21.62%	9.76%	1.14%	0.00%	
3	99.50%	84.58%	54.43%	36.82%	21.62%	9.85%	1.14%	0.00%	
2	99.50%	84.58%	54.43%	36.82%	21.67%	9.95%	1.14%	0.00%	
1 (bottom)	99.50%	84.58%	54.43%	36.82%	21.72%	10.04%	1.14%	0.00%	

Table C.41 Difference in Percent of Time Model Results Exceeds Water Age Project at 44 ft vs. Baseline at 40 ft (Dames Point Station)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (Top)	0.0%	0.1%	0.2%	0.3%	-0.5%	0.1%	-0.4%	0.0%		
5	0.0%	0.0%	0.0%	-0.2%	-0.4%	0.0%	0.0%	0.0%		
4	0.0%	0.0%	0.2%	-0.5%	0.0%	-0.3%	0.1%	0.0%		
3	0.0%	0.0%	0.0%	-0.5%	0.0%	-0.3%	0.1%	0.0%		
2	0.0%	0.0%	0.0%	-0.9%	0.1%	-0.4%	0.0%	0.0%		
1 (bottom)	0.0%	0.0%	0.0%	-0.6%	0.0%	-0.8%	0.0%	0.0%		

Table C.42 Difference in Percent of Time Model Results Exceeds Water Age Project at 44 ft vs. Baseline at 40 ft (Acosta Bridge Station)

Daily water age (day) greater than									
Model Layer	30	60	90	120	150	180	210	240	
6 (Top)	0.0%	0.2%	0.3%	0.7%	-0.1%	-0.1%	0.0%	0.0%	
5	0.0%	0.2%	0.3%	0.7%	-0.4%	-0.3%	-0.4%	0.0%	
4	0.0%	0.4%	0.4%	0.7%	-0.5%	-0.2%	-0.7%	0.0%	
3	0.0%	0.2%	0.1%	0.9%	-0.3%	-0.3%	-0.7%	0.0%	
2	0.0%	0.1%	0.4%	0.6%	-0.4%	-0.1%	-0.7%	0.0%	
1 (bottom)	0.0%	0.1%	0.3%	0.7%	-0.6%	-0.1%	-0.9%	0.0%	

Table C.43 Difference in Percent of Time Model Results Exceeds Water Age Project at 44 ft vs. Baseline at 40 ft (SAVPTLV Station)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (Top)	0.0%	0.1%	0.3%	0.6%	-0.1%	-0.1%	-0.1%	0.0%		
5	0.0%	0.1%	0.5%	0.5%	-0.1%	-0.1%	-0.1%	0.0%		
4	0.0%	0.1%	0.3%	0.6%	-0.1%	0.0%	-0.1%	0.0%		
3	0.0%	0.1%	0.1%	0.7%	0.0%	0.0%	0.0%	0.0%		
2	0.0%	0.1%	0.2%	0.7%	0.0%	-0.1%	0.0%	0.0%		
1 (bottom)	0.0%	0.1%	0.2%	0.6%	0.0%	-0.1%	0.0%	0.0%		

Table C.44 Difference in Percent of Time Model Results Exceeds Water Age Project at 44 ft vs. Baseline at 40 ft (JAXSJR40 Station)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (Top)	0.0%	0.1%	0.2%	0.8%	0.1%	0.0%	0.0%	0.0%		
5	0.0%	0.0%	0.2%	1.0%	0.0%	0.0%	0.0%	0.0%		
4	0.0%	0.1%	0.3%	0.9%	0.0%	0.0%	-0.2%	0.0%		
3	0.0%	0.1%	0.5%	0.7%	-0.2%	-0.1%	-0.1%	0.0%		
2	0.0%	0.1%	0.5%	0.9%	-0.1%	-0.2%	-0.1%	0.0%		
1 (bottom)	0.0%	0.2%	0.3%	0.9%	-0.3%	-0.1%	-0.3%	0.0%		

Table C.45 Difference in Percent of Time Model Results Exceeds Water Age Project at 44 ft vs. Baseline at 40 ft (SAVBOLS Station)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (Top)	0.0%	0.0%	0.1%	0.4%	0.2%	-0.1%	-0.1%	0.0%		
5	0.0%	0.1%	0.1%	0.3%	0.3%	0.0%	-0.1%	0.0%		
4	0.0%	0.1%	0.3%	0.4%	0.2%	0.0%	-0.1%	0.0%		
3	0.0%	0.1%	0.2%	0.3%	0.3%	0.0%	-0.1%	0.0%		
2	0.0%	0.0%	0.1%	0.4%	0.3%	0.0%	-0.1%	0.0%		
1 (bottom)	0.0%	0.0%	0.1%	0.4%	0.2%	0.0%	-0.1%	0.0%		

Table C.46 Difference in Percent of Time Model Results Exceeds Water Age Project at 44 ft vs. Baseline at 40 ft (Buckman Bridge Station)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (Top)	0.0%	0.1%	0.1%	0.2%	0.1%	-0.1%	-0.1%	0.0%		
5	0.0%	0.1%	0.1%	0.3%	0.1%	-0.2%	0.0%	0.0%		
4	0.0%	0.1%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%		
3	0.0%	0.1%	0.1%	0.2%	0.1%	0.0%	0.0%	0.0%		
2	0.0%	0.1%	0.2%	0.5%	0.1%	-0.1%	0.0%	0.0%		
1 (bottom)	0.0%	0.1%	0.3%	0.3%	0.0%	0.0%	0.0%	0.0%		

Table C.47 Difference in Percent of Time Model Results Exceeds Water Age Project at 44 ft vs. Baseline at 40 ft (SJRHBP Station)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (Top)	0.0%	0.2%	0.4%	0.2%	0.2%	0.4%	0.0%	0.0%		
5	0.0%	0.3%	0.4%	0.1%	0.1%	0.1%	0.0%	0.0%		
4	0.0%	0.2%	0.3%	0.3%	0.1%	0.1%	-0.1%	0.0%		
3	0.0%	0.2%	0.2%	0.2%	0.3%	0.4%	0.0%	0.0%		
2	0.0%	0.2%	0.3%	0.2%	0.1%	0.3%	-0.1%	0.0%		
1 (bottom)	0.0%	0.2%	0.3%	0.2%	0.1%	0.4%	0.0%	0.0%		

Table C.48 Difference in Percent of Time Model Results Exceeds Water Age Project at 44 ft vs. Baseline at 40 ft (Shands Bridge Station)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (Top)	0.0%	0.1%	0.1%	0.4%	0.1%	-0.1%	0.0%	0.0%		
5	0.0%	0.1%	0.1%	0.4%	0.1%	0.0%	0.0%	0.0%		
4	0.0%	0.1%	0.1%	0.3%	0.1%	0.1%	0.0%	0.0%		
3	0.0%	0.1%	0.0%	0.3%	0.1%	0.0%	0.0%	0.0%		
2	0.0%	0.1%	0.0%	0.3%	0.1%	0.1%	0.0%	0.0%		
1 (bottom)	0.0%	0.1%	0.0%	0.3%	0.1%	0.0%	0.0%	0.0%		

Table C.49 Difference in Percent of Time Model Results Exceeds Water Age Project at 46 ft vs. Baseline at 40 ft (Dames Point Station)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (Top)	0.0%	0.1%	0.5%	0.3%	-0.9%	0.5%	0.0%	0.0%		
5	0.0%	0.0%	0.4%	-0.3%	-0.5%	0.5%	0.4%	0.0%		
4	0.0%	0.0%	0.0%	-0.5%	0.1%	0.3%	0.3%	0.0%		
3	0.0%	0.0%	0.0%	-0.6%	-0.1%	0.0%	0.2%	0.0%		
2	0.0%	0.0%	0.0%	-0.5%	0.4%	0.0%	0.1%	0.0%		
1 (bottom)	0.0%	0.0%	0.0%	-0.6%	0.3%	-0.3%	0.0%	0.0%		

Table C.50 Difference in Percent of Time Model Results Exceeds Water Age Project at 46 ft vs. Baseline at 40 ft (Acosta Bridge Station)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (Top)	0.0%	0.2%	0.4%	0.6%	0.1%	0.1%	-0.1%	0.0%		
5	0.0%	0.2%	0.5%	0.6%	-0.1%	0.5%	-0.4%	0.0%		
4	0.0%	0.5%	0.6%	0.5%	-0.4%	0.4%	-0.6%	0.0%		
3	0.0%	0.3%	0.5%	0.6%	-0.3%	0.4%	-0.8%	0.0%		
2	0.0%	0.1%	0.7%	0.6%	-0.4%	0.5%	-0.9%	0.0%		
1 (bottom)	0.0%	0.2%	0.5%	0.7%	-0.4%	0.5%	-1.0%	0.0%		

Table C.51 Difference in Percent of Time Model Results Exceeds Water Age Project at 46 ft vs. Baseline at 40 ft (SAVPTLV Station)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (Top)	0.0%	0.1%	0.4%	0.9%	0.0%	0.0%	0.0%	0.0%		
5	0.0%	0.1%	0.5%	0.8%	0.0%	0.0%	0.0%	0.0%		
4	0.0%	0.1%	0.4%	0.9%	0.0%	0.0%	0.0%	0.0%		
3	0.0%	0.1%	0.4%	0.8%	0.1%	0.0%	0.0%	0.0%		
2	0.0%	0.1%	0.4%	0.8%	0.2%	0.0%	-0.1%	0.0%		
1 (bottom)	0.0%	0.1%	0.3%	0.8%	0.2%	0.0%	-0.1%	0.0%		

Table C.52 Difference in Percent of Time Model Results Exceeds Water Age Project at 46 ft vs. Baseline at 40 ft (JAXSJR40 Station)

Daily water age (day) greater than										
Model Layer	Model Layer 30 60 90 120 150 180 210 240									
6 (Top)	0.0%	0.1%	0.2%	0.8%	0.1%	-0.1%	-0.1%	0.0%		
5	0.0%	0.1%	0.4%	1.1%	0.2%	-0.1%	0.0%	0.0%		
4	0.0%	0.2%	0.5%	1.1%	0.1%	-0.1%	0.0%	0.0%		
3	0.0%	0.4%	0.6%	1.0%	0.0%	-0.1%	-0.1%	0.0%		
2	0.0%	0.3%	0.6%	1.0%	0.1%	-0.1%	0.0%	0.0%		
1 (bottom)	0.0%	0.3%	0.5%	1.2%	0.0%	-0.1%	-0.1%	0.0%		

Table C.53 Difference in Percent of Time Model Results Exceeds Water Age Project at 46 ft vs. Baseline at 40 ft (SAVBOLS Station)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (Top)	0.0%	0.1%	0.4%	0.5%	0.4%	-0.1%	0.0%	0.0%		
5	0.0%	0.1%	0.5%	0.4%	0.4%	-0.1%	0.0%	0.0%		
4	0.0%	0.1%	0.5%	0.5%	0.4%	-0.1%	0.0%	0.0%		
3	0.0%	0.1%	0.4%	0.4%	0.4%	-0.1%	0.0%	0.0%		
2	0.0%	0.0%	0.4%	0.5%	0.4%	-0.1%	-0.1%	0.0%		
1 (bottom)	0.0%	0.0%	0.4%	0.5%	0.3%	-0.1%	-0.1%	0.0%		

Table C.54 Difference in Percent of Time Model Results Exceeds Water Age Project at 46 ft vs. Baseline at 40 ft (Buckman Bridge Station)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (Top)	0.0%	0.1%	0.2%	0.3%	0.3%	-0.2%	0.0%	0.0%		
5	0.0%	0.1%	0.3%	0.5%	0.3%	-0.2%	-0.1%	0.0%		
4	0.0%	0.1%	0.2%	0.2%	0.2%	-0.1%	-0.1%	0.0%		
3	0.0%	0.1%	0.3%	0.3%	0.3%	-0.1%	-0.1%	0.0%		
2	0.0%	0.1%	0.3%	0.3%	0.3%	-0.1%	0.0%	0.0%		
1 (bottom)	0.0%	0.1%	0.5%	0.4%	0.2%	-0.1%	0.0%	0.0%		

Table C.55 Difference in Percent of Time Model Results Exceeds Water Age Project at 46 ft vs. Baseline at 40 ft (SJRHBP Station)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (Top)	0.0%	0.2%	0.5%	0.2%	0.2%	0.3%	0.0%	0.0%		
5	0.0%	0.2%	0.5%	0.2%	0.1%	0.2%	0.0%	0.0%		
4	0.0%	0.2%	0.4%	0.4%	0.1%	0.2%	-0.1%	0.0%		
3	0.0%	0.1%	0.4%	0.3%	0.2%	0.5%	0.0%	0.0%		
2	0.0%	0.1%	0.4%	0.2%	0.1%	0.2%	-0.2%	0.0%		
1 (bottom)	0.0%	0.1%	0.4%	0.2%	0.1%	0.3%	-0.1%	0.0%		

Table C.56 Difference in Percent of Time Model Results Exceeds Water Age Project at 46 ft vs. Baseline at 40 ft (Shands Bridge Station)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (Top)	0.0%	0.1%	0.1%	0.5%	0.3%	0.0%	0.0%	0.0%		
5	0.0%	0.1%	0.1%	0.5%	0.3%	0.0%	0.0%	0.0%		
4	0.0%	0.1%	0.1%	0.5%	0.2%	-0.1%	0.0%	0.0%		
3	0.0%	0.1%	0.1%	0.4%	0.3%	-0.1%	0.0%	0.0%		
2	0.0%	0.1%	0.1%	0.5%	0.3%	0.0%	0.0%	0.0%		
1 (bottom)	0.0%	0.1%	0.1%	0.5%	0.2%	0.0%	0.0%	0.0%		

Table C.57 Difference in Percent of Time Model Results Exceeds Water Age Project at 50 ft vs. Baseline at 40 ft (Dames Point Station)

Daily water age (day) greater than										
Model Layer	el Layer 30 60 90 120 150 180 210 240									
6 (Top)	0.0%	0.2%	0.5%	0.6%	1.1%	0.8%	0.5%	0.0%		
5	0.0%	0.0%	0.5%	-0.3%	0.3%	0.6%	1.0%	0.0%		
4	0.0%	0.0%	0.1%	-0.5%	1.0%	0.3%	0.8%	0.0%		
3	0.0%	0.0%	0.0%	-0.5%	1.2%	0.2%	0.6%	0.0%		
2	0.0%	0.0%	0.0%	-0.5%	1.4%	0.0%	0.5%	0.0%		
1 (bottom)	0.0%	0.0%	0.0%	-0.9%	1.4%	-0.4%	0.3%	0.0%		

Table C.58 Difference in Percent of Time Model Results Exceeds Water Age Project at 50 ft vs. Baseline at 40 ft (Acosta Bridge Station)

Daily water age (day) greater than										
Model Layer	Model Layer 30 60 90 120 150 180 210 240									
6 (Top)	0.0%	0.4%	0.5%	1.1%	0.6%	0.5%	0.5%	0.0%		
5	0.0%	0.5%	0.6%	0.8%	0.4%	0.9%	0.4%	0.0%		
4	0.0%	0.6%	0.6%	0.7%	0.3%	0.8%	0.4%	0.0%		
3	0.0%	0.5%	0.6%	1.3%	0.4%	0.7%	0.4%	0.0%		
2	0.0%	0.4%	0.9%	1.2%	0.6%	0.7%	0.3%	0.0%		
1 (bottom)	0.0%	0.5%	0.7%	1.2%	0.5%	0.9%	0.2%	0.0%		

Table C.59 Difference in Percent of Time Model Results Exceeds Water Age Project at 50 ft vs. Baseline at 40 ft (SAVPTLV Station)

Daily water age (day) greater than										
Model Layer	del Layer 30 60 90 120 150 180 210 24									
6 (Top)	0.0%	0.2%	0.7%	1.7%	0.9%	0.5%	0.5%	0.0%		
5	0.0%	0.2%	0.8%	1.7%	0.8%	0.5%	0.5%	0.0%		
4	0.0%	0.2%	0.5%	1.6%	0.9%	0.5%	0.5%	0.0%		
3	0.0%	0.2%	0.5%	1.6%	0.9%	0.5%	0.6%	0.0%		
2	0.0%	0.2%	0.5%	1.6%	0.9%	0.5%	0.6%	0.0%		
1 (bottom)	0.0%	0.2%	0.5%	1.5%	0.9%	0.4%	0.6%	0.0%		

Table C.60 Difference in Percent of Time Model Results Exceeds Water Age Project at 50 ft vs. Baseline at 40 ft (JAXSJR40 Station)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (Top)	0.0%	0.5%	0.5%	1.7%	0.9%	0.5%	0.2%	0.0%		
5	0.0%	0.5%	0.6%	1.8%	1.0%	0.7%	0.3%	0.0%		
4	0.0%	0.5%	0.7%	2.1%	0.9%	0.7%	0.3%	0.0%		
3	0.0%	0.6%	0.8%	2.1%	0.9%	0.6%	0.3%	0.0%		
2	0.0%	0.5%	0.8%	1.9%	0.9%	0.5%	0.3%	0.0%		
1 (bottom)	0.0%	0.5%	0.6%	1.9%	0.7%	0.5%	0.3%	0.0%		

Table C.61 Difference in Percent of Time Model Results Exceeds Water Age Project at 50 ft vs. Baseline at 40 ft (SAVBOLS Station)

Daily water age (day) greater than										
Model Layer	30	30 60 90 120 150 180 210 240								
6 (Top)	0.0%	0.1%	0.9%	0.9%	1.4%	0.8%	1.0%	0.0%		
5	0.0%	0.2%	0.9%	1.0%	1.2%	0.8%	1.0%	0.0%		
4	0.0%	0.2%	0.9%	1.0%	1.1%	0.8%	1.0%	0.0%		
3	0.0%	0.2%	0.9%	1.0%	1.1%	0.8%	1.0%	0.0%		
2	0.0%	0.1%	0.8%	1.3%	1.1%	0.9%	1.0%	0.0%		
1 (bottom)	0.0%	0.1%	0.8%	1.3%	1.0%	0.9%	1.0%	0.0%		

Table C.62 Difference in Percent of Time Model Results Exceeds Water Age Project at 50 ft vs. Baseline at 40 ft (Buckman Bridge Station)

Daily water age (day) greater than									
Model Layer	30	60	90	120	150	180	210	240	
6 (Top)	0.0%	0.5%	0.5%	0.3%	1.2%	0.2%	0.6%	0.0%	
5	0.0%	0.5%	0.6%	0.7%	1.0%	0.2%	0.7%	0.0%	
4	0.0%	0.5%	0.6%	0.7%	1.4%	0.3%	0.7%	0.0%	
3	0.0%	0.5%	0.6%	0.5%	1.4%	0.3%	0.7%	0.0%	
2	0.0%	0.5%	0.6%	0.9%	1.0%	0.2%	0.5%	0.0%	
1 (bottom)	0.0%	0.5%	0.7%	0.6%	1.0%	0.2%	0.5%	0.0%	

Table C.63 Difference in Percent of Time Model Results Exceeds Water Age Project at 50 ft vs. Baseline at 40 ft (SJRHBP Station)

Daily water age (day) greater than **Model Layer** 30 60 90 180 240 120 150 210 6 (Top) 0.0% 0.2% 1.3% 0.6% 0.4% 1.2% 0.3% 0.0% 5 0.0% 0.0% 0.2% 1.2% 0.5% 0.5% 1.4% 0.5% 4 0.0% 0.2% 1.2% 0.6% 0.5% 1.6% 0.3% 0.0% 3 0.6% 0.0% 0.0% 0.2% 1.2% 0.5% 1.4% 0.3% 2 0.0% 0.2% 1.2% 0.6% 0.4% 1.0% 0.2% 0.0% 1 (bottom) 0.0% 0.2% 1.3% 0.6% 0.5% 1.0% 0.2% 0.0%

Table C.64 Difference in Percent of Time Model Results Exceeds Water Age Project at 50 ft vs. Baseline at 40 ft (Shands Bridge Station)

Daily water age (day) greater than								
Model Layer	30	60	90	120	150	180	210	240
6 (Top)	0.0%	0.2%	0.6%	0.9%	1.0%	0.6%	0.1%	0.0%
5	0.0%	0.2%	0.6%	0.9%	1.0%	0.6%	0.1%	0.0%
4	0.0%	0.2%	0.6%	0.9%	1.0%	0.5%	0.1%	0.0%
3	0.0%	0.2%	0.6%	0.8%	1.1%	0.5%	0.1%	0.0%
2	0.0%	0.2%	0.6%	0.8%	1.0%	0.4%	0.1%	0.0%
1 (bottom)	0.0%	0.2%	0.6%	0.8%	1.0%	0.3%	0.1%	0.0%

APPENDIX C

Summary of Comparisons of Salinity and Water Age for Project vs. Baseline (Deepening with Sea Level Rise and Water Withdrawal)

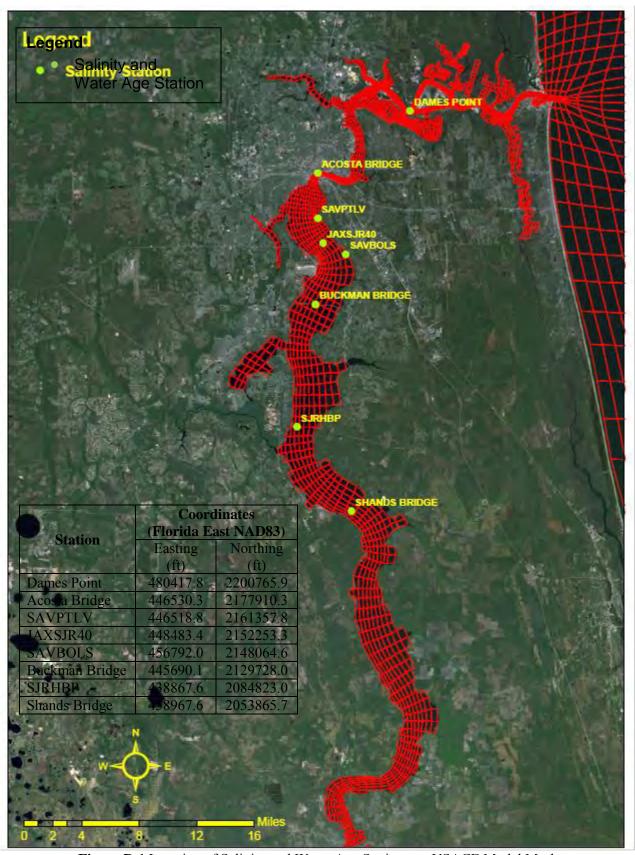


Figure D.1 Location of Salinity and Water Age Stations on USACE Model Mesh

Table D.1 Percent of Time Model Results Exceeds Salinity Levels for Baseline at 40 ft (Dames Point Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (p	pt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	99.1%	98.4%	91.7%	76.2%	49.4%	22.5%	4.2%	0.0%
7	99.6%	98.7%	92.9%	77.5%	49.6%	21.4%	2.4%	0.0%
30	100.0%	99.5%	94.6%	80.3%	48.9%	19.3%	0.0%	0.0%
60	100.0%	100.0%	95.3%	82.6%	45.9%	19.4%	0.0%	0.0%
90	100.0%	100.0%	96.7%	84.4%	45.5%	18.3%	0.0%	0.0%
Layer 5	Salinity (p	opt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	99.8%	99.0%	96.1%	87.3%	66.3%	36.3%	8.4%	0.0%
7	100.0%	99.5%	96.7%	88.6%	66.7%	35.4%	5.9%	0.0%
30	100.0%	100.0%	97.8%	90.9%	68.5%	33.6%	2.6%	0.0%
60	100.0%	100.0%	99.0%	90.4%	70.1%	32.8%	1.0%	0.0%
90	100.0%	100.0%	100.0%	91.7%	73.8%	29.8%	0.0%	0.0%
Layer 4	Salinity (p	pt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	100.0%	99.8%	98.2%	93.7%	80.4%	51.5%	15.4%	0.0%
7	100.0%	100.0%	98.5%	94.3%	81.7%	51.6%	13.5%	0.0%
30	100.0%	100.0%	99.4%	95.3%	83.4%	50.1%	9.2%	0.0%
60	100.0%	100.0%	100.0%	96.1%	84.9%	47.0%	7.0%	0.0%
90	100.0%	100.0%	100.0%	97.2%	85.7%	45.8%	5.7%	0.0%
Layer 3	Salinity (p	pt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	100.0%	100.0%	98.8%	96.1%	87.5%	62.8%	23.1%	0.0%
7	100.0%	100.0%	99.4%	96.7%	89.1%	62.9%	21.6%	0.0%
30	100.0%	100.0%	100.0%	97.6%	91.1%	64.6%	17.6%	0.0%
60	100.0%	100.0%	100.0%	98.8%	90.9%	62.8%	17.5%	0.0%
90	100.0%	100.0%	100.0%	100.0%	91.3%	63.1%	16.4%	0.0%
Layer 2	Salinity (p	pt) greate	r than	T			T	
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	100.0%	100.0%	99.4%	97.9%	92.6%	74.7%	29.9%	0.0%
7	100.0%	100.0%	99.7%	98.0%	93.6%	74.5%	28.5%	0.0%
30	100.0%	100.0%	100.0%	99.1%	94.7%	74.7%	27.0%	0.0%
60	100.0%	100.0%	100.0%	100.0%	94.6%	78.2%	24.5%	0.0%
90	100.0%	100.0%	100.0%	100.0%	96.3%	79.9%	23.2%	0.0%
Layer 1 (Bottom)	Salinity (r	pt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	100.0%	100.0%	99.7%	98.4%	95.4%	82.3%	39.4%	0.0%
7	100.0%	100.0%	100.0%	99.0%	96.0%	84.8%	37.6%	0.0%
		l	400.00/	00.00/	96.6%	85.8%	35.1%	0.0%
30	100.0%	100.0%	100.0%	99.9%	90.0%	63.670	33.170	0.076
30 60	100.0% 100.0%	100.0%	100.0%	100.0%	97.9%	87.0%	33.9%	0.0%

Table D.2 Percent of Time Model Results Exceeds Salinity Levels for Baseline at 40 ft (Acosta Bridge Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (opt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	85.0%	75.5%	46.9%	23.1%	5.7%	0.6%	0.0%	0.0%
7	86.9%	77.1%	46.3%	22.4%	4.2%	0.3%	0.0%	0.0%
30	90.8%	78.1%	45.8%	22.1%	2.4%	0.0%	0.0%	0.0%
60	91.1%	82.3%	42.7%	21.1%	1.2%	0.0%	0.0%	0.0%
90	91.9%	84.2%	45.0%	20.3%	0.0%	0.0%	0.0%	0.0%
Layer 5	Salinity (opt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	88.0%	80.5%	54.7%	30.1%	10.0%	1.7%	0.1%	0.0%
7	90.6%	81.8%	55.7%	30.3%	8.1%	0.8%	0.0%	0.0%
30	93.4%	84.6%	58.7%	29.8%	6.2%	0.0%	0.0%	0.0%
60	95.1%	85.7%	56.8%	27.8%	4.7%	0.0%	0.0%	0.0%
90	96.7%	87.8%	52.7%	27.3%	2.1%	0.0%	0.0%	0.0%
Layer 4	Salinity (opt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	89.3%	82.4%	59.3%	33.3%	12.0%	2.0%	0.2%	0.0%
7	92.0%	84.4%	59.5%	34.1%	9.4%	1.0%	0.0%	0.0%
30	94.6%	87.2%	63.3%	32.7%	7.9%	0.0%	0.0%	0.0%
60	95.6%	88.4%	62.8%	31.5%	6.4%	0.0%	0.0%	0.0%
90	97.4%	89.5%	62.4%	29.3%	5.1%	0.0%	0.0%	0.0%
	Salinity (ppt) greater than							
Layer 3	Salinity (opt) greate	r than	T			1	
Layer 3 Moving Average Period (day)	Salinity (_I	opt) greate 5	r than	15	20	25	30	35
· ·	1	1	1	15 35.6%	20 13.1%	25 2.5%	30 0.2%	35 0.0%
Moving Average Period (day)	3	5	10					
Moving Average Period (day) 1	3 90.4%	5 83.8%	10 61.9%	35.6%	13.1%	2.5%	0.2%	0.0%
Moving Average Period (day) 1 7	3 90.4% 92.6%	5 83.8% 85.7%	10 61.9% 62.4%	35.6% 36.2%	13.1% 11.3%	2.5% 1.1%	0.2%	0.0%
Moving Average Period (day) 1 7 30	3 90.4% 92.6% 95.2%	5 83.8% 85.7% 89.0%	10 61.9% 62.4% 65.5%	35.6% 36.2% 34.3%	13.1% 11.3% 9.3%	2.5% 1.1% 0.0%	0.2% 0.0% 0.0%	0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60	3 90.4% 92.6% 95.2% 96.0% 97.7%	5 83.8% 85.7% 89.0% 89.2%	10 61.9% 62.4% 65.5% 65.3% 67.4%	35.6% 36.2% 34.3% 33.3%	13.1% 11.3% 9.3% 7.3%	2.5% 1.1% 0.0% 0.0%	0.2% 0.0% 0.0% 0.0%	0.0% 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90	3 90.4% 92.6% 95.2% 96.0% 97.7%	5 83.8% 85.7% 89.0% 89.2% 90.6%	10 61.9% 62.4% 65.5% 65.3% 67.4%	35.6% 36.2% 34.3% 33.3%	13.1% 11.3% 9.3% 7.3%	2.5% 1.1% 0.0% 0.0%	0.2% 0.0% 0.0% 0.0%	0.0% 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2	3 90.4% 92.6% 95.2% 96.0% 97.7% Salinity (5 83.8% 85.7% 89.0% 89.2% 90.6% opt) greate	10 61.9% 62.4% 65.5% 65.3% 67.4% r than	35.6% 36.2% 34.3% 33.3% 30.7%	13.1% 11.3% 9.3% 7.3% 6.9%	2.5% 1.1% 0.0% 0.0% 0.0%	0.2% 0.0% 0.0% 0.0% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day)	3 90.4% 92.6% 95.2% 96.0% 97.7% Salinity (5 83.8% 85.7% 89.0% 89.2% 90.6% opt) greate	10 61.9% 62.4% 65.5% 65.3% 67.4% r than 10	35.6% 36.2% 34.3% 33.3% 30.7%	13.1% 11.3% 9.3% 7.3% 6.9%	2.5% 1.1% 0.0% 0.0% 0.0%	0.2% 0.0% 0.0% 0.0% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1	3 90.4% 92.6% 95.2% 96.0% 97.7% Salinity () 3 91.1%	5 83.8% 85.7% 89.0% 89.2% 90.6% opt) greate 5 84.6%	10 61.9% 62.4% 65.5% 65.3% 67.4% r than 10 64.0%	35.6% 36.2% 34.3% 33.3% 30.7% 15 37.9%	13.1% 11.3% 9.3% 7.3% 6.9% 20 14.3%	2.5% 1.1% 0.0% 0.0% 0.0% 25 2.7%	0.2% 0.0% 0.0% 0.0% 0.0% 30 0.2%	0.0% 0.0% 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7	3 90.4% 92.6% 95.2% 96.0% 97.7% Salinity () 3 91.1% 92.9%	5 83.8% 85.7% 89.0% 89.2% 90.6% opt) greate 5 84.6% 86.6%	10 61.9% 62.4% 65.5% 65.3% 67.4% r than 10 64.0%	35.6% 36.2% 34.3% 33.3% 30.7% 15 37.9% 37.4%	13.1% 11.3% 9.3% 7.3% 6.9% 20 14.3% 12.6%	2.5% 1.1% 0.0% 0.0% 0.0% 25 2.7% 1.1%	0.2% 0.0% 0.0% 0.0% 0.0% 30 0.2% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0% 35 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30	3 90.4% 92.6% 95.2% 96.0% 97.7% Salinity (1 3 91.1% 92.9% 95.4%	5 83.8% 85.7% 89.0% 89.2% 90.6% opt) greate 5 84.6% 86.6% 90.1%	10 61.9% 62.4% 65.5% 65.3% 67.4% r than 10 64.0% 64.2%	35.6% 36.2% 34.3% 33.3% 30.7% 15 37.9% 37.4% 35.9%	13.1% 11.3% 9.3% 7.3% 6.9% 20 14.3% 12.6% 9.9%	2.5% 1.1% 0.0% 0.0% 0.0% 25 2.7% 1.1% 0.0%	0.2% 0.0% 0.0% 0.0% 0.0% 30 0.2% 0.0% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0% 35 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60	3 90.4% 92.6% 95.2% 96.0% 97.7% Salinity (1 3 91.1% 92.9% 95.4% 96.7% 97.8%	5 83.8% 85.7% 89.0% 89.2% 90.6% opt) greate 5 84.6% 86.6% 90.1%	10 61.9% 62.4% 65.5% 65.3% 67.4% r than 10 64.0% 64.2% 66.9% 67.8% 72.0%	35.6% 36.2% 34.3% 33.3% 30.7% 15 37.9% 37.4% 35.9%	13.1% 11.3% 9.3% 7.3% 6.9% 20 14.3% 12.6% 9.9% 7.9%	2.5% 1.1% 0.0% 0.0% 0.0% 25 2.7% 1.1% 0.0% 0.0%	0.2% 0.0% 0.0% 0.0% 0.0% 30 0.2% 0.0% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0% 35 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90	3 90.4% 92.6% 95.2% 96.0% 97.7% Salinity (1 3 91.1% 92.9% 95.4% 96.7% 97.8%	5 83.8% 85.7% 89.0% 89.2% 90.6% opt) greate 5 84.6% 86.6% 90.1% 91.2%	10 61.9% 62.4% 65.5% 65.3% 67.4% r than 10 64.0% 64.2% 66.9% 67.8% 72.0%	35.6% 36.2% 34.3% 33.3% 30.7% 15 37.9% 37.4% 35.9%	13.1% 11.3% 9.3% 7.3% 6.9% 20 14.3% 12.6% 9.9% 7.9%	2.5% 1.1% 0.0% 0.0% 0.0% 25 2.7% 1.1% 0.0% 0.0%	0.2% 0.0% 0.0% 0.0% 0.0% 30 0.2% 0.0% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0% 35 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom)	3 90.4% 92.6% 95.2% 96.0% 97.7% Salinity (1 3 91.1% 92.9% 95.4% 96.7% 97.8% Salinity (1	5 83.8% 85.7% 89.0% 89.2% 90.6% opt) greate 5 84.6% 86.6% 90.1% 91.2% opt) greate	10 61.9% 62.4% 65.5% 65.3% 67.4% r than 10 64.0% 64.2% 66.9% 67.8% 72.0% r than	35.6% 36.2% 34.3% 33.3% 30.7% 15 37.9% 37.4% 35.9% 35.4% 32.1%	13.1% 11.3% 9.3% 7.3% 6.9% 20 14.3% 12.6% 9.9% 7.9% 9.1%	2.5% 1.1% 0.0% 0.0% 0.0% 25 2.7% 1.1% 0.0% 0.0% 0.0%	0.2% 0.0% 0.0% 0.0% 0.0% 30 0.2% 0.0% 0.0% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0% 35 0.0% 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day)	3 90.4% 92.6% 95.2% 96.0% 97.7% Salinity (3 91.1% 92.9% 95.4% 96.7% 97.8% Salinity (3	5 83.8% 85.7% 89.0% 89.2% 90.6% opt) greate 5 84.6% 90.1% 90.1% 91.2% opt) greate	10 61.9% 62.4% 65.5% 65.3% 67.4% r than 10 64.0% 64.2% 66.9% 67.8% 72.0% r than 10	35.6% 36.2% 34.3% 33.3% 30.7% 15 37.9% 37.4% 35.9% 35.4% 32.1%	13.1% 11.3% 9.3% 7.3% 6.9% 20 14.3% 12.6% 9.9% 7.9% 9.1%	2.5% 1.1% 0.0% 0.0% 0.0% 25 2.7% 1.1% 0.0% 0.0% 25 2.5	0.2% 0.0% 0.0% 0.0% 0.0% 30 0.2% 0.0% 0.0% 0.0% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0% 35 0.0% 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day)	3 90.4% 92.6% 95.2% 96.0% 97.7% Salinity (3 91.1% 92.9% 95.4% 96.7% 97.8% Salinity (3 91.3%	5 83.8% 85.7% 89.0% 89.2% 90.6% opt) greate 5 84.6% 90.1% 90.1% 91.2% opt) greate 5 85.0%	10 61.9% 62.4% 65.5% 65.3% 67.4% r than 10 64.0% 64.2% 66.9% 67.8% 72.0% r than 10 65.0%	35.6% 36.2% 34.3% 33.3% 30.7% 15 37.9% 35.4% 35.4% 32.1% 15 39.1%	13.1% 11.3% 9.3% 7.3% 6.9% 20 14.3% 12.6% 9.9% 7.9% 9.1%	2.5% 1.1% 0.0% 0.0% 0.0% 25 2.7% 1.1% 0.0% 0.0% 25 2.8%	0.2% 0.0% 0.0% 0.0% 0.0% 30 0.2% 0.0% 0.0% 0.0% 0.0% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0% 35 0.0% 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day)	3 90.4% 92.6% 95.2% 96.0% 97.7% Salinity (3 91.1% 92.9% 95.4% 96.7% 97.8% Salinity (3 91.3% 93.1%	5 83.8% 85.7% 89.0% 89.2% 90.6% opt) greate 5 84.6% 90.1% 90.1% 91.2% opt) greate 5 85.0% 87.0%	10 61.9% 62.4% 65.5% 65.3% 67.4% r than 10 64.0% 64.2% 66.9% 67.8% 72.0% r than 10 65.0%	35.6% 36.2% 34.3% 33.3% 30.7% 15 37.9% 35.9% 35.4% 32.1% 15 39.1% 38.2%	13.1% 11.3% 9.3% 7.3% 6.9% 20 14.3% 12.6% 9.9% 7.9% 9.1% 20 15.1% 13.5%	2.5% 1.1% 0.0% 0.0% 0.0% 25 2.7% 1.1% 0.0% 0.0% 25 2.8% 1.2%	0.2% 0.0% 0.0% 0.0% 0.0% 30 0.2% 0.0% 0.0% 30 0.2% 0.0% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0% 35 0.0% 0.0% 0.0% 0.0% 0.0% 0.0%

Table D.3 Percent of Time Model Results Exceeds Salinity Levels for Baseline at 40 ft (SAVPTLV Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (p	pt) greater	than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	98.1%	93.4%	86.9%	72.4%	56.8%	30.2%	9.7%	1.6%
7	98.3%	95.5%	89.4%	73.6%	58.6%	31.0%	9.2%	1.0%
30	99.1%	97.8%	94.6%	73.5%	63.1%	28.7%	7.3%	0.0%
60	100.0%	99.1%	96.2%	80.3%	61.7%	28.3%	6.8%	0.0%
90	100.0%	100.0%	97.7%	82.7%	59.4%	27.7%	5.2%	0.0%
Layer 5	Salinity (p	pt) greater	than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	98.1%	93.5%	87.0%	73.3%	59.0%	31.3%	10.7%	1.9%
7	98.4%	95.6%	89.6%	74.5%	60.3%	32.4%	9.8%	1.2%
30	99.1%	98.1%	95.1%	74.2%	64.7%	30.7%	8.0%	0.0%
60	100.0%	99.1%	96.5%	81.0%	64.5%	29.3%	7.4%	0.0%
90	100.0%	100.0%	97.8%	83.8%	64.6%	28.8%	6.3%	0.0%
Layer 4	Salinity (p	pt) greater	than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	98.1%	93.5%	87.1%	73.7%	60.0%	32.9%	11.6%	2.1%
7	98.4%	95.7%	90.0%	75.5%	60.9%	33.3%	10.6%	1.5%
30	99.1%	98.1%	95.4%	74.8%	65.6%	31.8%	9.1%	0.0%
60	100.0%	99.2%	96.6%	81.3%	66.3%	30.8%	7.8%	0.0%
90	100.0%	100.0%	97.9%	85.1%	67.8%	29.7%	7.7%	0.0%
Layer 3	Salinity (p	pt) greater	than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	98.1%	93.6%	87.2%	74.0%	60.9%	33.5%	12.4%	2.4%
7	98.4%	95.8%	90.1%	76.0%	61.3%	33.9%	11.4%	1.6%
30	99.1%	98.2%	95.5%	75.6%	66.1%	32.7%	9.9%	0.0%
60	100.0%	99.2%	96.6%	81.5%	67.3%	32.1%	8.4%	0.0%
90	100.0%	100.0%	97.9%	85.3%	68.8%	30.0%	8.8%	0.0%
Layer 2	Salinity (p	pt) greater	than		T		T	
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	98.1%	93.6%	87.2%	74.3%	61.1%	33.9%	12.7%	2.6%
7	98.4%	95.8%	90.1%	76.3%	61.8%	34.2%	11.7%	1.7%
30	99.1%	98.2%	95.6%	76.0%	66.3%	33.1%	10.2%	0.0%
60	100.0%	99.2%	96.7%	81.6%	67.7%	32.8%	8.7%	0.0%
90	100.0%	100.0%	97.9%	85.5%	69.4%	30.4%	9.8%	0.0%
Layer 1 (Bottom)	Salinity (p	pt) greater	than		Ī			
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	98.1%	93.6%	87.2%	74.5%	61.1%	34.2%	12.8%	2.7%
7	98.4%	95.8%	90.1%	76.5%	62.0%	34.4%	11.8%	1.7%
30	99.1%	98.2%	95.6%	76.1%	66.5%	33.2%	10.3%	0.0%
60	100.0%	99.2%	96.7%	81.8%	67.9%	33.2%	8.8%	0.0%
90	100.0%	100.0%	97.9%	85.5%	69.8%	30.4%	9.9%	0.0%

Table D.4 Percent of Time Model Results Exceeds Salinity Levels for Baseline at 40 ft (JAXSJR40 Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (pp	ot) greater	than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	97.8%	90.3%	82.8%	64.1%	48.9%	22.4%	5.2%	0.4%
7	98.2%	93.2%	84.8%	64.1%	48.7%	22.5%	4.2%	0.0%
30	98.6%	96.2%	90.6%	67.7%	47.8%	23.5%	3.6%	0.0%
60	100.0%	98.2%	90.9%	70.9%	47.4%	21.8%	2.4%	0.0%
90	100.0%	98.3%	91.6%	74.1%	48.6%	19.9%	0.0%	0.0%
Layer 5	Salinity (pp	ot) greater	than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	97.8%	90.3%	83.1%	65.6%	51.7%	26.7%	7.3%	0.9%
7	98.2%	93.4%	85.5%	66.2%	52.2%	26.6%	6.8%	0.7%
30	98.7%	96.4%	91.7%	69.8%	51.3%	26.2%	5.7%	0.0%
60	100.0%	98.5%	92.8%	74.2%	51.1%	24.4%	4.0%	0.0%
90	100.0%	98.4%	92.7%	77.9%	51.0%	24.2%	1.7%	0.0%
Layer 4	Salinity (pp	ot) greater	than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	97.8%	90.5%	83.4%	67.0%	53.4%	28.5%	8.5%	1.4%
7	98.2%	93.6%	86.0%	68.2%	54.3%	29.3%	8.0%	0.8%
30	98.9%	96.4%	92.0%	71.0%	56.7%	28.1%	6.8%	0.0%
60	100.0%	98.5%	94.0%	75.9%	54.1%	27.0%	5.5%	0.0%
90	100.0%	98.4%	93.8%	79.2%	53.4%	26.4%	4.1%	0.0%
30	100.070	30.170	33.070	75.270	33.770	20.170	1.170	0.070
Layer 3	Salinity (pr	l .	<u> </u>	73.270	33.470	20.170	11.170	0.070
	1	l .	<u> </u>	3	5	10	15	20
Layer 3	Salinity (pr	ot) greater	than					
Layer 3 Moving Average Period (day)	Salinity (pp	ot) greater 0.5	than 1	3	5	10	15	20
Layer 3 Moving Average Period (day) 1	Salinity (pp 0.25 97.8%	ot) greater 0.5 90.5%	than 1 83.6%	3 68.1%	5 54.7%	10 30.1%	15 10.4%	20 2.0%
Layer 3 Moving Average Period (day) 1 7	Salinity (pp 0.25 97.8% 98.2%	ot) greater 0.5 90.5% 93.8%	than 1 83.6% 86.6%	3 68.1% 69.7%	5 54.7% 56.3%	10 30.1% 31.4%	15 10.4% 9.5%	20 2.0% 1.1%
Layer 3 Moving Average Period (day) 1 7 30	Salinity (pp 0.25 97.8% 98.2% 98.9%	0.5 90.5% 93.8% 96.4%	than 1 83.6% 86.6% 92.2%	3 68.1% 69.7% 71.9%	5 54.7% 56.3% 59.6%	10 30.1% 31.4% 29.2%	15 10.4% 9.5% 8.5%	20 2.0% 1.1% 0.0%
Layer 3 Moving Average Period (day) 1 7 30 60	Salinity (pp 0.25 97.8% 98.2% 98.9% 100.0%	ot) greater 0.5 90.5% 93.8% 96.4% 98.6% 98.4%	than 1 83.6% 86.6% 92.2% 94.9% 94.9%	3 68.1% 69.7% 71.9% 77.1%	5 54.7% 56.3% 59.6% 57.5%	10 30.1% 31.4% 29.2% 28.4%	15 10.4% 9.5% 8.5% 6.8%	20 2.0% 1.1% 0.0% 0.0%
Layer 3 Moving Average Period (day) 1 7 30 60 90	Salinity (pp 0.25 97.8% 98.2% 98.9% 100.0%	ot) greater 0.5 90.5% 93.8% 96.4% 98.6% 98.4%	than 1 83.6% 86.6% 92.2% 94.9% 94.9%	3 68.1% 69.7% 71.9% 77.1%	5 54.7% 56.3% 59.6% 57.5%	10 30.1% 31.4% 29.2% 28.4%	15 10.4% 9.5% 8.5% 6.8%	20 2.0% 1.1% 0.0% 0.0%
Layer 3 Moving Average Period (day) 1 7 30 60 90 Layer 2	Salinity (pp 0.25 97.8% 98.2% 98.9% 100.0% Salinity (pp	ot) greater 0.5 90.5% 93.8% 96.4% 98.6% 98.4% ot) greater	than 1 83.6% 86.6% 92.2% 94.9% 94.9% than	3 68.1% 69.7% 71.9% 77.1% 80.6%	5 54.7% 56.3% 59.6% 57.5% 55.9%	10 30.1% 31.4% 29.2% 28.4% 28.0%	15 10.4% 9.5% 8.5% 6.8% 5.6%	20 2.0% 1.1% 0.0% 0.0% 0.0%
Layer 3 Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day)	Salinity (pp 0.25 97.8% 98.2% 98.9% 100.0% Salinity (pp 0.25	ot) greater 0.5 90.5% 93.8% 96.4% 98.6% 98.4% ot) greater	than 1 83.6% 86.6% 92.2% 94.9% 94.9% than 1	3 68.1% 69.7% 71.9% 77.1% 80.6%	5 54.7% 56.3% 59.6% 57.5% 55.9%	10 30.1% 31.4% 29.2% 28.4% 28.0%	15 10.4% 9.5% 8.5% 6.8% 5.6%	20 2.0% 1.1% 0.0% 0.0% 0.0%
Layer 3 Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day)	Salinity (pp 0.25 97.8% 98.2% 98.9% 100.0% 100.0% Salinity (pp 0.25 97.8%	ot) greater 0.5 90.5% 93.8% 96.4% 98.6% 98.4% ot) greater 0.5 90.5%	1 83.6% 86.6% 92.2% 94.9% 94.9% than 1 83.8%	3 68.1% 69.7% 71.9% 77.1% 80.6% 3 68.9%	5 54.7% 56.3% 59.6% 57.5% 55.9%	10 30.1% 31.4% 29.2% 28.4% 28.0% 10 31.8%	15 10.4% 9.5% 8.5% 6.8% 5.6% 15 11.7%	20 2.0% 1.1% 0.0% 0.0% 0.0% 20 2.6%
Layer 3 Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7	Salinity (pp 0.25 97.8% 98.2% 98.9% 100.0% Salinity (pp 0.25 97.8% 98.2%	ot) greater 0.5 90.5% 93.8% 96.4% 98.6% 98.4% ot) greater 0.5 90.5% 93.8%	1 83.6% 86.6% 92.2% 94.9% 94.9% than 1 83.8% 86.9%	3 68.1% 69.7% 71.9% 77.1% 80.6% 3 68.9% 70.6%	5 54.7% 56.3% 59.6% 57.5% 55.9% 5 55.7% 57.7%	10 30.1% 31.4% 29.2% 28.4% 28.0% 10 31.8% 32.6%	15 10.4% 9.5% 8.5% 6.8% 5.6% 15 11.7% 10.8%	20 2.0% 1.1% 0.0% 0.0% 0.0% 20 2.6% 1.3%
Layer 3 Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30	Salinity (pp 0.25 97.8% 98.2% 98.9% 100.0% 100.0% Salinity (pp 0.25 97.8% 98.2% 98.9%	90.5% 93.8% 96.4% 98.6% 98.4% ot) greater 0.5 90.5% 93.8% 96.6%	1 83.6% 86.6% 92.2% 94.9% 94.9% than 1 83.8% 86.9%	3 68.1% 69.7% 71.9% 77.1% 80.6% 3 68.9% 70.6% 72.6%	5 54.7% 56.3% 59.6% 57.5% 55.9% 5 55.7% 57.7% 62.5%	10 30.1% 31.4% 29.2% 28.4% 28.0% 10 31.8% 32.6% 30.8%	15 10.4% 9.5% 8.5% 6.8% 5.6% 15 11.7% 10.8% 9.4%	20 2.0% 1.1% 0.0% 0.0% 0.0% 20 2.6% 1.3% 0.0%
Layer 3 Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60	Salinity (pp 0.25 97.8% 98.2% 98.9% 100.0% Salinity (pp 0.25 97.8% 98.2% 98.9% 100.0%	ot) greater 0.5 90.5% 93.8% 96.4% 98.6% 98.4% ot) greater 0.5 90.5% 93.8% 96.6% 98.8% 98.9%	than 1 83.6% 86.6% 92.2% 94.9% 94.9% than 1 83.8% 86.9% 92.5% 95.2% 95.8%	3 68.1% 69.7% 71.9% 77.1% 80.6% 3 68.9% 70.6% 72.6%	5 54.7% 56.3% 59.6% 57.5% 55.9% 5 55.7% 62.5% 60.9%	10 30.1% 31.4% 29.2% 28.4% 28.0% 10 31.8% 32.6% 30.8% 29.5%	15 10.4% 9.5% 8.5% 6.8% 5.6% 15 11.7% 10.8% 9.4% 7.5%	20 2.0% 1.1% 0.0% 0.0% 0.0% 20 2.6% 1.3% 0.0%
Layer 3 Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90	Salinity (pp 0.25 97.8% 98.2% 98.9% 100.0% Salinity (pp 0.25 97.8% 98.2% 98.9% 100.0% 100.0%	ot) greater 0.5 90.5% 93.8% 96.4% 98.6% 98.4% ot) greater 0.5 90.5% 93.8% 96.6% 98.8% 98.9%	than 1 83.6% 86.6% 92.2% 94.9% 94.9% than 1 83.8% 86.9% 92.5% 95.2% 95.8%	3 68.1% 69.7% 71.9% 77.1% 80.6% 3 68.9% 70.6% 72.6%	5 54.7% 56.3% 59.6% 57.5% 55.9% 5 55.7% 62.5% 60.9%	10 30.1% 31.4% 29.2% 28.4% 28.0% 10 31.8% 32.6% 30.8% 29.5%	15 10.4% 9.5% 8.5% 6.8% 5.6% 15 11.7% 10.8% 9.4% 7.5%	20 2.0% 1.1% 0.0% 0.0% 0.0% 20 2.6% 1.3% 0.0%
Layer 3 Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom)	Salinity (pp 0.25 97.8% 98.2% 98.9% 100.0% Salinity (pp 0.25 97.8% 98.2% 98.9% 100.0% Salinity (pp	ot) greater 0.5 90.5% 93.8% 96.4% 98.6% 98.4% ot) greater 0.5 90.5% 93.8% 96.6% 98.8% 98.9% ot) greater	than 1 83.6% 86.6% 92.2% 94.9% 94.9% than 1 83.8% 86.9% 92.5% 95.2% 95.8% than	3 68.1% 69.7% 71.9% 77.1% 80.6% 3 68.9% 70.6% 72.6% 78.2% 81.7%	5 54.7% 56.3% 59.6% 57.5% 55.9% 5 55.7% 62.5% 60.9% 58.7%	10 30.1% 31.4% 29.2% 28.4% 28.0% 10 31.8% 32.6% 30.8% 29.5% 29.0%	15 10.4% 9.5% 8.5% 6.8% 5.6% 15 11.7% 10.8% 9.4% 7.5% 6.9%	20 2.0% 1.1% 0.0% 0.0% 0.0% 20 2.6% 1.3% 0.0% 0.0%
Layer 3 Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day)	Salinity (pp. 0.25 97.8% 98.9% 100.0% Salinity (pp. 0.25 97.8% 98.9% 100.0% Salinity (pp. 0.25 97.8% 98.9% 100.0% Salinity (pp. 0.25 0.25	ot) greater 0.5 90.5% 93.8% 96.4% 98.6% 98.4% ot) greater 0.5 90.5% 93.8% 96.6% 98.9% ot) greater 0.5 90.5%	than 1 83.6% 86.6% 92.2% 94.9% 94.9% than 1 83.8% 86.9% 92.5% 95.2% 95.8% than 1	3 68.1% 69.7% 71.9% 77.1% 80.6% 3 68.9% 70.6% 72.6% 78.2% 81.7%	5 54.7% 56.3% 59.6% 57.5% 55.9% 5 55.7% 62.5% 60.9% 58.7%	10 30.1% 31.4% 29.2% 28.4% 28.0% 10 31.8% 32.6% 30.8% 29.5% 29.0%	15 10.4% 9.5% 8.5% 6.8% 5.6% 15 11.7% 10.8% 9.4% 7.5% 6.9%	20 2.0% 1.1% 0.0% 0.0% 0.0% 20 2.6% 1.3% 0.0% 0.0%
Layer 3 Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day) 1	Salinity (pp 0.25 97.8% 98.2% 98.9% 100.0% Salinity (pp 0.25 97.8% 98.2% 98.9% 100.0% Salinity (pp 0.25 97.8%	ot) greater 0.5 90.5% 93.8% 96.4% 98.6% 98.4% ot) greater 0.5 90.5% 93.8% 96.6% 98.8% 98.9% ot) greater 0.5 90.5%	than 1 83.6% 86.6% 92.2% 94.9% 94.9% than 1 83.8% 86.9% 92.5% 95.2% 95.8% than 1 83.8%	3 68.1% 69.7% 71.9% 77.1% 80.6% 3 68.9% 70.6% 72.6% 78.2% 81.7%	5 54.7% 56.3% 59.6% 57.5% 55.9% 5 5,7% 62.5% 60.9% 58.7%	10 30.1% 31.4% 29.2% 28.4% 28.0% 10 31.8% 32.6% 30.8% 29.5% 29.0%	15 10.4% 9.5% 8.5% 6.8% 5.6% 15 11.7% 10.8% 9.4% 7.5% 6.9%	20 2.0% 1.1% 0.0% 0.0% 0.0% 20 2.6% 1.3% 0.0% 0.0% 0.0%
Layer 3 Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day) 1 7	Salinity (pp. 0.25 97.8% 98.9% 100.0% Salinity (pp. 0.25 97.8% 98.9% 100.0% Salinity (pp. 0.25 97.8% 98.9% 100.0% Salinity (pp. 0.25 97.8% 98.2%	ot) greater 0.5 90.5% 93.8% 96.4% 98.6% 98.4% ot) greater 0.5 90.5% 93.8% 96.6% 98.9% ot) greater 0.5 90.5% 94.1%	than 1 83.6% 86.6% 92.2% 94.9% 94.9% than 1 83.8% 86.9% 92.5% 95.2% 95.8% than 1 83.8% 87.0%	3 68.1% 69.7% 71.9% 77.1% 80.6% 3 68.9% 70.6% 72.6% 78.2% 81.7% 3 69.5% 71.4%	5 54.7% 56.3% 59.6% 57.5% 55.9% 5 55.7% 62.5% 60.9% 58.7% 5 56.4% 58.6%	10 30.1% 31.4% 29.2% 28.4% 28.0% 10 31.8% 32.6% 30.8% 29.5% 29.0% 10 32.8% 33.4%	15 10.4% 9.5% 8.5% 6.8% 5.6% 15 11.7% 10.8% 9.4% 7.5% 6.9% 15 13.1% 11.7%	20 2.0% 1.1% 0.0% 0.0% 0.0% 20 2.6% 1.3% 0.0% 0.0% 0.0%

Table D.5 Percent of Time Model Results Exceeds Salinity Levels for Baseline at 40 ft (SAVBOLS Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (pp	ot) greater	than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	97.4%	85.1%	75.0%	55.2%	40.3%	15.2%	2.2%	0.1%
7	97.5%	87.0%	75.6%	55.7%	40.0%	15.1%	1.6%	0.0%
30	98.1%	93.2%	78.0%	58.9%	39.3%	14.5%	0.5%	0.0%
60	99.1%	96.2%	83.2%	57.8%	39.1%	14.9%	0.0%	0.0%
90	100.0%	95.9%	87.4%	57.2%	39.8%	14.4%	0.0%	0.0%
Layer 5	Salinity (pp	ot) greater	than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	97.4%	85.1%	75.1%	55.4%	40.8%	15.6%	2.6%	0.2%
7	97.5%	87.0%	75.9%	56.1%	40.6%	15.7%	1.9%	0.0%
30	98.1%	93.2%	78.1%	59.6%	39.8%	14.9%	0.7%	0.0%
60	99.1%	96.3%	83.3%	59.1%	39.5%	15.6%	0.0%	0.0%
90	100.0%	96.0%	87.5%	58.1%	40.5%	14.7%	0.0%	0.0%
Layer 4	Salinity (pp	ot) greater	than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	97.4%	85.2%	75.1%	55.7%	41.4%	16.1%	3.1%	0.2%
7	97.5%	87.1%	76.0%	56.4%	41.1%	16.4%	2.1%	0.0%
30	98.1%	93.3%	78.3%	60.7%	41.1%	15.4%	1.2%	0.0%
60	99.1%	96.4%	83.3%	60.2%	40.0%	16.3%	0.0%	0.0%
90	100.0%	96.1%	87.5%	59.1%	41.1%	15.0%	0.0%	0.0%
Layer 3	Salinity (pp	ot) greater	than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	97.4%	85.2%	75.3%	55.9%	41.9%	16.4%	3.3%	0.2%
7	97.5%	87.2%	76.1%	56.8%	41.6%	16.8%	2.3%	0.0%
30	98.1%	93.3%	78.5%	61.6%	41.6%	15.9%	1.3%	0.0%
60	99.1%	96.4%	83.3%	61.3%	40.5%	16.8%	0.0%	0.0%
90	100.0%	96.1%	87.6%	60.6%	41.7%	15.4%	0.0%	0.0%
Layer 2	Salinity (pp	ot) greater	than				T	1
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	97.4%	85.2%	75.3%	56.1%	42.2%	17.0%	3.6%	0.2%
7	97.5%	87.3%	76.1%	57.1%	42.1%	17.2%	2.6%	0.0%
30	98.1%	93.3%	78.6%	62.2%	42.3%	16.5%	1.5%	0.0%
60	99.1%	96.4%	83.5%	62.2%	40.7%	17.3%	0.0%	0.0%
90	100.0%	96.1%	87.7%	61.4%	42.4%	15.7%	0.0%	0.0%
Layer 1 (Bottom)	Salinity (pp	t) greater	than				Ī	1
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	97.4%	85.2%	75.4%	56.2%	42.5%	17.7%	4.0%	0.3%
7	97.5%	87.4%	76.2%	57.5%	42.5%	17.7%	2.9%	0.0%
30	98.1%	93.3%	78.9%	62.4%	42.8%	17.1%	1.6%	0.0%
60	99.2%	96.4%	83.5%	62.7%	40.9%	17.6%	0.1%	0.0%
90	100.0%	96.1%	87.7%	62.0%	43.2%	16.1%	0.0%	0.0%

Table D.6 Percent of Time Model Results Exceeds Salinity Levels for Baseline at 40 ft (Buckman Bridge Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (p	opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	97.1%	76.9%	62.4%	40.5%	29.4%	7.8%	0.3%	0.0%
7	97.4%	78.3%	63.7%	40.8%	29.1%	7.7%	0.1%	0.0%
30	97.9%	82.2%	69.3%	40.0%	28.4%	6.5%	0.0%	0.0%
60	98.2%	85.6%	74.7%	40.3%	29.0%	5.1%	0.0%	0.0%
90	99.0%	89.1%	79.6%	41.7%	28.5%	3.8%	0.0%	0.0%
Layer 5	Salinity (ppt) greate	r than				T	T
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	97.1%	77.0%	62.7%	43.6%	32.9%	10.7%	1.1%	0.0%
7	97.4%	78.5%	64.3%	43.3%	32.9%	10.4%	1.0%	0.0%
30	97.9%	82.5%	70.3%	43.6%	32.3%	10.0%	0.0%	0.0%
60	98.2%	85.8%	77.2%	42.4%	31.9%	8.3%	0.0%	0.0%
90	99.0%	89.3%	80.8%	45.6%	31.3%	8.9%	0.0%	0.0%
Layer 4	Salinity (բ	opt) greate	r than				T	T
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	97.1%	77.0%	63.0%	45.9%	35.3%	13.8%	2.2%	0.2%
7	97.4%	78.7%	65.1%	46.2%	35.0%	13.8%	1.6%	0.0%
30	97.9%	82.7%	71.9%	46.6%	34.3%	12.5%	0.6%	0.0%
60	98.2%	86.1%	78.6%	44.7%	34.9%	12.5%	0.0%	0.0%
90	99.0%	89.4%	82.1%	48.0%	33.2%	12.3%	0.0%	0.0%
Layer 3	Salinity (ppt) greate	r than				ı	1
Moving Average Period (day)	0.25	ο -	_	_	_			
triciage i ciloa (aay)	0.25	0.5	1	3	5	10	15	20
1	97.1%	77.0%	63.3%	3 47.4%	5 37.7%	10 16.8%	15 3.4%	20 0.4%
1	97.1%	77.0%	63.3%	47.4%	37.7%	16.8%	3.4%	0.4%
7	97.1% 97.4%	77.0% 78.8% 82.9% 86.2%	63.3% 65.7%	47.4% 48.1%	37.7% 37.3%	16.8% 16.7%	3.4% 2.7%	0.4% 0.2%
1 7 30	97.1% 97.4% 97.9%	77.0% 78.8% 82.9%	63.3% 65.7% 73.1%	47.4% 48.1% 48.1%	37.7% 37.3% 35.8%	16.8% 16.7% 15.2%	3.4% 2.7% 1.6%	0.4% 0.2% 0.0%
1 7 30 60 90 Layer 2	97.1% 97.4% 97.9% 98.2% 99.0% Salinity (p	77.0% 78.8% 82.9% 86.2% 89.5% opt) greate	63.3% 65.7% 73.1% 79.1% 83.0%	47.4% 48.1% 48.1% 47.7% 49.6%	37.7% 37.3% 35.8% 36.5% 35.4%	16.8% 16.7% 15.2% 16.6% 14.9%	3.4% 2.7% 1.6% 0.0%	0.4% 0.2% 0.0% 0.0%
1 7 30 60 90	97.1% 97.4% 97.9% 98.2% 99.0% Salinity (p	77.0% 78.8% 82.9% 86.2% 89.5% opt) greate 0.5	63.3% 65.7% 73.1% 79.1% 83.0% er than	47.4% 48.1% 48.1% 47.7% 49.6%	37.7% 37.3% 35.8% 36.5% 35.4%	16.8% 16.7% 15.2% 16.6% 14.9%	3.4% 2.7% 1.6% 0.0%	0.4% 0.2% 0.0% 0.0%
1 7 30 60 90 <i>Layer 2</i> Moving Average Period (day) 1	97.1% 97.4% 97.9% 98.2% 99.0% Salinity (p 0.25 97.1%	77.0% 78.8% 82.9% 86.2% 89.5% opt) greate 0.5 77.0%	63.3% 65.7% 73.1% 79.1% 83.0% er than 1 63.4%	47.4% 48.1% 48.1% 47.7% 49.6% 3 48.1%	37.7% 37.3% 35.8% 36.5% 35.4% 5 39.4%	16.8% 16.7% 15.2% 16.6% 14.9% 10 19.8%	3.4% 2.7% 1.6% 0.0% 0.0% 15 5.2%	0.4% 0.2% 0.0% 0.0% 0.0% 20 0.6%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7	97.1% 97.4% 97.9% 98.2% 99.0% Salinity (p	77.0% 78.8% 82.9% 86.2% 89.5% opt) greate 0.5	63.3% 65.7% 73.1% 79.1% 83.0% er than	47.4% 48.1% 48.1% 47.7% 49.6%	37.7% 37.3% 35.8% 36.5% 35.4%	16.8% 16.7% 15.2% 16.6% 14.9%	3.4% 2.7% 1.6% 0.0% 0.0%	0.4% 0.2% 0.0% 0.0% 0.0%
1 7 30 60 90 <i>Layer 2</i> Moving Average Period (day) 1	97.1% 97.4% 97.9% 98.2% 99.0% Salinity (p 0.25 97.1%	77.0% 78.8% 82.9% 86.2% 89.5% opt) greate 0.5 77.0%	63.3% 65.7% 73.1% 79.1% 83.0% er than 1 63.4%	47.4% 48.1% 48.1% 47.7% 49.6% 3 48.1%	37.7% 37.3% 35.8% 36.5% 35.4% 5 39.4%	16.8% 16.7% 15.2% 16.6% 14.9% 10 19.8%	3.4% 2.7% 1.6% 0.0% 0.0% 15 5.2%	0.4% 0.2% 0.0% 0.0% 0.0% 20 0.6%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60	97.1% 97.4% 97.9% 98.2% 99.0% Salinity (p 0.25 97.1% 97.4% 97.9% 98.2%	77.0% 78.8% 82.9% 86.2% 89.5% opt) greate 0.5 77.0% 78.8% 83.1% 86.4%	63.3% 65.7% 73.1% 79.1% 83.0% r than 1 63.4% 66.0% 73.6%	47.4% 48.1% 47.7% 49.6% 3 48.1% 49.8% 50.9% 52.6%	37.7% 37.3% 35.8% 36.5% 35.4% 5 39.4% 39.5% 37.5% 38.4%	16.8% 16.7% 15.2% 16.6% 14.9% 10 19.8% 19.3% 18.6% 19.0%	3.4% 2.7% 1.6% 0.0% 0.0% 15 5.2% 4.5% 2.4% 1.3%	0.4% 0.2% 0.0% 0.0% 0.0% 20 0.6% 0.5% 0.0%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90	97.1% 97.4% 97.9% 98.2% 99.0% Salinity (p 0.25 97.1% 97.4% 97.9% 98.2% 99.0%	77.0% 78.8% 82.9% 86.2% 89.5% ppt) greate 0.5 77.0% 78.8% 83.1% 86.4% 89.5%	63.3% 65.7% 73.1% 79.1% 83.0% or than 1 63.4% 66.0% 73.6% 79.5% 84.8%	47.4% 48.1% 47.7% 49.6% 3 48.1% 49.8% 50.9%	37.7% 37.3% 35.8% 36.5% 35.4% 5 39.4% 39.5% 37.5%	16.8% 16.7% 15.2% 16.6% 14.9% 10 19.8% 19.3% 18.6%	3.4% 2.7% 1.6% 0.0% 0.0% 15 5.2% 4.5% 2.4%	0.4% 0.2% 0.0% 0.0% 0.0% 20 0.6% 0.5% 0.0%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom)	97.1% 97.4% 97.9% 98.2% 99.0% Salinity (p 0.25 97.1% 97.4% 97.9% 98.2% 99.0% Salinity (p	77.0% 78.8% 82.9% 86.2% 89.5% ppt) greate 0.5 77.0% 78.8% 83.1% 86.4% 89.5% ppt) greate	63.3% 65.7% 73.1% 79.1% 83.0% or than 1 63.4% 66.0% 73.6% 79.5% 84.8%	47.4% 48.1% 47.7% 49.6% 3 48.1% 49.8% 50.9% 52.6% 51.4%	37.7% 37.3% 35.8% 36.5% 35.4% 5 39.4% 39.5% 37.5% 38.4% 39.1%	16.8% 16.7% 15.2% 16.6% 14.9% 10 19.8% 19.3% 18.6% 19.0%	3.4% 2.7% 1.6% 0.0% 0.0% 15 5.2% 4.5% 2.4% 1.3%	0.4% 0.2% 0.0% 0.0% 0.0% 20 0.6% 0.5% 0.0% 0.0%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90	97.1% 97.4% 97.9% 98.2% 99.0% Salinity (p 0.25 97.1% 97.4% 97.9% 98.2% 99.0%	77.0% 78.8% 82.9% 86.2% 89.5% ppt) greate 0.5 77.0% 78.8% 83.1% 86.4% 89.5%	63.3% 65.7% 73.1% 79.1% 83.0% or than 1 63.4% 66.0% 73.6% 79.5% 84.8%	47.4% 48.1% 47.7% 49.6% 3 48.1% 49.8% 50.9% 52.6%	37.7% 37.3% 35.8% 36.5% 35.4% 5 39.4% 39.5% 37.5% 38.4%	16.8% 16.7% 15.2% 16.6% 14.9% 10 19.8% 19.3% 18.6% 19.0%	3.4% 2.7% 1.6% 0.0% 0.0% 15 5.2% 4.5% 2.4% 1.3%	0.4% 0.2% 0.0% 0.0% 0.0% 20 0.6% 0.5% 0.0%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day)	97.1% 97.4% 97.9% 98.2% 99.0% Salinity (p 0.25 97.1% 97.4% 97.9% 98.2% 99.0% Salinity (p	77.0% 78.8% 82.9% 86.2% 89.5% ppt) greate 0.5 77.0% 78.8% 83.1% 86.4% 89.5% ppt) greate	63.3% 65.7% 73.1% 79.1% 83.0% r than 1 63.4% 66.0% 73.6% 79.5% 84.8% r than	47.4% 48.1% 47.7% 49.6% 3 48.1% 49.8% 50.9% 52.6% 51.4%	37.7% 37.3% 35.8% 36.5% 35.4% 5 39.4% 39.5% 37.5% 38.4% 39.1%	16.8% 16.7% 15.2% 16.6% 14.9% 10 19.8% 19.3% 18.6% 19.0%	3.4% 2.7% 1.6% 0.0% 0.0% 15 5.2% 4.5% 2.4% 1.3% 0.0%	0.4% 0.2% 0.0% 0.0% 0.0% 20 0.6% 0.5% 0.0% 0.0%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day) 1 7	97.1% 97.4% 97.9% 98.2% 99.0% Salinity (p 0.25 97.1% 97.4% 97.9% Salinity (p 0.25 97.1% 97.4%	77.0% 78.8% 82.9% 86.2% 89.5% ppt) greate 0.5 77.0% 78.8% 83.1% 86.4% 89.5% ppt) greate 0.5 77.0% 78.8%	63.3% 65.7% 73.1% 79.1% 83.0% r than 1 63.4% 66.0% 73.6% 79.5% 84.8% r than 1 63.4% 66.3%	47.4% 48.1% 47.7% 49.6% 3 48.1% 49.8% 50.9% 51.4%	37.7% 37.3% 35.8% 36.5% 35.4% 5 39.4% 39.5% 37.5% 38.4% 39.1% 5 40.7% 40.9%	16.8% 16.7% 15.2% 16.6% 14.9% 10 19.8% 19.3% 18.6% 17.6% 10 22.3% 21.4%	3.4% 2.7% 1.6% 0.0% 0.0% 15 5.2% 4.5% 2.4% 1.3% 0.0%	0.4% 0.2% 0.0% 0.0% 0.0% 20 0.6% 0.0% 0.0% 21 0.0% 0.0% 0.0%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day) 1 7	97.1% 97.4% 97.9% 98.2% 99.0% Salinity (p 0.25 97.1% 97.4% 98.2% 99.0% Salinity (p 0.25 97.1% 97.9%	77.0% 78.8% 82.9% 86.2% 89.5% ppt) greate 0.5 77.0% 78.8% 83.1% 86.4% ppt) greate 0.5 77.0% 78.8% 83.1%	63.3% 65.7% 73.1% 79.1% 83.0% r than 1 63.4% 66.0% 73.6% 79.5% 84.8% r than 1 63.4% 66.3% 73.9%	47.4% 48.1% 47.7% 49.6% 3 48.1% 49.8% 50.9% 52.6% 51.4% 3 48.6% 50.8% 53.7%	37.7% 37.3% 35.8% 36.5% 35.4% 5 39.4% 39.5% 37.5% 38.4% 39.1% 5 40.7% 40.9% 40.7%	16.8% 16.7% 15.2% 16.6% 14.9% 10 19.8% 19.3% 18.6% 17.6% 10 22.3% 21.4% 20.9%	3.4% 2.7% 1.6% 0.0% 0.0% 15 5.2% 4.5% 2.4% 1.3% 0.0% 15 6.8%	0.4% 0.2% 0.0% 0.0% 0.0% 20 0.6% 0.5% 0.0% 0.0% 21 0.0%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day) 1 7	97.1% 97.4% 97.9% 98.2% 99.0% Salinity (p 0.25 97.1% 97.4% 97.9% Salinity (p 0.25 97.1% 97.4%	77.0% 78.8% 82.9% 86.2% 89.5% ppt) greate 0.5 77.0% 78.8% 83.1% 86.4% 89.5% ppt) greate 0.5 77.0% 78.8%	63.3% 65.7% 73.1% 79.1% 83.0% r than 1 63.4% 66.0% 73.6% 79.5% 84.8% r than 1 63.4% 66.3%	47.4% 48.1% 48.1% 47.7% 49.6% 3 48.1% 49.8% 50.9% 51.4% 3 48.6% 50.8%	37.7% 37.3% 35.8% 36.5% 35.4% 5 39.4% 39.5% 37.5% 38.4% 39.1% 5 40.7% 40.9%	16.8% 16.7% 15.2% 16.6% 14.9% 10 19.8% 19.3% 18.6% 17.6% 10 22.3% 21.4%	3.4% 2.7% 1.6% 0.0% 0.0% 15 5.2% 4.5% 2.4% 1.3% 0.0% 15 6.8% 5.6%	0.4% 0.2% 0.0% 0.0% 0.0% 20 0.6% 0.0% 0.0% 21 0.0% 0.0% 0.0%

Table D.7 Percent of Time Model Results Exceeds Salinity Levels for Baseline at 40 ft (SJRHBP Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (p	ot) greater	than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	100.0%	94.9%	46.3%	34.2%	27.0%	21.4%	11.7%	0.4%
7	100.0%	95.5%	47.5%	34.2%	27.1%	21.9%	11.3%	0.2%
30	100.0%	96.1%	49.8%	36.5%	28.1%	23.2%	10.7%	0.0%
60	100.0%	96.2%	52.3%	38.7%	28.8%	22.0%	9.4%	0.0%
90	100.0%	95.5%	54.9%	40.5%	30.4%	21.8%	10.7%	0.0%
Layer 5	Salinity (p	ot) greater	than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	100.0%	94.9%	46.3%	34.4%	27.4%	23.3%	12.8%	0.9%
7	100.0%	95.5%	47.6%	34.6%	27.5%	23.5%	12.8%	0.6%
30	100.0%	96.1%	50.9%	36.9%	28.6%	24.4%	12.4%	0.0%
60	100.0%	96.2%	52.4%	39.6%	30.7%	23.2%	11.2%	0.0%
90	100.0%	95.5%	55.4%	41.4%	31.3%	22.6%	12.2%	0.0%
Layer 4	Salinity (p	ot) greater	than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	100.0%	94.9%	46.3%	34.8%	27.9%	24.0%	14.2%	1.6%
7	100.0%	95.5%	47.6%	34.9%	28.0%	24.5%	14.3%	1.4%
30	100.0%	96.1%	51.1%	37.4%	29.2%	25.1%	13.5%	0.6%
60	100.0%	96.2%	52.6%	40.2%	31.6%	24.1%	14.9%	0.0%
90	100.0%	95.6%	55.7%	43.7%	32.1%	24.2%	14.4%	0.0%
Layer 3	Salinity (p	ot) greater	than					
Moving Average Desired (des)	0.1		~ -	_	_	_		
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	100.0%	94.9%	0.5 46.4%	1 35.0%	28.2%	3 24.5%	5 15.6%	2.0%
1	100.0%	94.9%	46.4%	35.0%	28.2%	24.5%	15.6%	2.0%
1 7	100.0% 100.0%	94.9% 95.5%	46.4% 47.8%	35.0% 35.4%	28.2% 28.6%	24.5% 24.8%	15.6% 15.6%	2.0% 1.9%
1 7 30	100.0% 100.0% 100.0%	94.9% 95.5% 96.1%	46.4% 47.8% 51.5%	35.0% 35.4% 38.0%	28.2% 28.6% 29.7%	24.5% 24.8% 25.6%	15.6% 15.6% 14.1%	2.0% 1.9% 1.4%
1 7 30 60	100.0% 100.0% 100.0% 100.0%	94.9% 95.5% 96.1% 96.2% 95.6%	46.4% 47.8% 51.5% 52.7% 55.9%	35.0% 35.4% 38.0% 40.5%	28.2% 28.6% 29.7% 32.1%	24.5% 24.8% 25.6% 25.4%	15.6% 15.6% 14.1% 16.7%	2.0% 1.9% 1.4% 0.0%
1 7 30 60 90	100.0% 100.0% 100.0% 100.0%	94.9% 95.5% 96.1% 96.2% 95.6%	46.4% 47.8% 51.5% 52.7% 55.9%	35.0% 35.4% 38.0% 40.5%	28.2% 28.6% 29.7% 32.1%	24.5% 24.8% 25.6% 25.4%	15.6% 15.6% 14.1% 16.7%	2.0% 1.9% 1.4% 0.0%
1 7 30 60 90 Layer 2	100.0% 100.0% 100.0% 100.0% Salinity (pp	94.9% 95.5% 96.1% 96.2% 95.6% ot) greater	46.4% 47.8% 51.5% 52.7% 55.9%	35.0% 35.4% 38.0% 40.5% 44.3%	28.2% 28.6% 29.7% 32.1% 32.7%	24.5% 24.8% 25.6% 25.4% 25.5%	15.6% 15.6% 14.1% 16.7% 15.5%	2.0% 1.9% 1.4% 0.0% 0.0%
1 7 30 60 90 Layer 2 Moving Average Period (day)	100.0% 100.0% 100.0% 100.0% 5alinity (pp	94.9% 95.5% 96.1% 96.2% 95.6% ot) greater 0.25	46.4% 47.8% 51.5% 52.7% 55.9% than 0.5	35.0% 35.4% 38.0% 40.5% 44.3%	28.2% 28.6% 29.7% 32.1% 32.7%	24.5% 24.8% 25.6% 25.4% 25.5%	15.6% 15.6% 14.1% 16.7% 15.5%	2.0% 1.9% 1.4% 0.0% 0.0%
1 7 30 60 90 <i>Layer 2</i> Moving Average Period (day) 1	100.0% 100.0% 100.0% 100.0% Salinity (pp 0.1 100.0%	94.9% 95.5% 96.1% 96.2% 95.6% ot) greater 0.25 94.9%	46.4% 47.8% 51.5% 52.7% 55.9% than 0.5 46.5%	35.0% 35.4% 38.0% 40.5% 44.3% 1 35.0%	28.2% 28.6% 29.7% 32.1% 32.7% 2 28.4%	24.5% 24.8% 25.6% 25.4% 25.5% 3 24.8%	15.6% 15.6% 14.1% 16.7% 15.5% 5 16.0%	2.0% 1.9% 1.4% 0.0% 0.0% 10 2.7%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7	100.0% 100.0% 100.0% 100.0% Salinity (pp 0.1 100.0% 100.0%	94.9% 95.5% 96.1% 96.2% 95.6% ot) greater 0.25 94.9% 95.5%	46.4% 47.8% 51.5% 52.7% 55.9% than 0.5 46.5% 47.8%	35.0% 35.4% 38.0% 40.5% 44.3% 1 35.0% 35.6%	28.2% 28.6% 29.7% 32.1% 32.7% 2 28.4% 28.9%	24.5% 24.8% 25.6% 25.4% 25.5% 3 24.8% 25.3%	15.6% 15.6% 14.1% 16.7% 15.5% 5 16.0% 16.3%	2.0% 1.9% 1.4% 0.0% 0.0% 10 2.7% 2.4%
1 7 30 60 90 <i>Layer 2</i> Moving Average Period (day) 1 7 30	100.0% 100.0% 100.0% 100.0% Salinity (pp 0.1 100.0% 100.0%	94.9% 95.5% 96.1% 96.2% 95.6% ot) greater 0.25 94.9% 95.5% 96.1%	46.4% 47.8% 51.5% 52.7% 55.9% than 0.5 46.5% 47.8% 52.6%	35.0% 35.4% 38.0% 40.5% 44.3% 1 35.0% 35.6% 38.4%	28.2% 28.6% 29.7% 32.1% 32.7% 2 28.4% 28.9% 30.2%	24.5% 24.8% 25.6% 25.4% 25.5% 3 24.8% 25.3% 26.1%	15.6% 15.6% 14.1% 16.7% 15.5% 5 16.0% 16.3% 14.7%	2.0% 1.9% 1.4% 0.0% 0.0% 10 2.7% 2.4% 1.7%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60	100.0% 100.0% 100.0% 100.0% Salinity (pp 0.1 100.0% 100.0% 100.0%	94.9% 95.5% 96.1% 96.2% 95.6% ot) greater 0.25 94.9% 95.5% 96.1% 96.2% 95.6%	46.4% 47.8% 51.5% 52.7% 55.9% than 0.5 46.5% 47.8% 52.6% 53.1% 56.0%	35.0% 35.4% 38.0% 40.5% 44.3% 1 35.0% 35.6% 38.4% 40.6%	28.2% 28.6% 29.7% 32.1% 32.7% 2 28.4% 28.9% 30.2% 32.5%	24.5% 24.8% 25.6% 25.4% 25.5% 3 24.8% 25.3% 26.1%	15.6% 15.6% 14.1% 16.7% 15.5% 5 16.0% 16.3% 14.7%	2.0% 1.9% 1.4% 0.0% 0.0% 10 2.7% 2.4% 1.7% 0.0%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90	100.0% 100.0% 100.0% 100.0% Salinity (pp 0.1 100.0% 100.0% 100.0% 100.0%	94.9% 95.5% 96.1% 96.2% 95.6% ot) greater 0.25 94.9% 95.5% 96.1% 96.2% 95.6%	46.4% 47.8% 51.5% 52.7% 55.9% than 0.5 46.5% 47.8% 52.6% 53.1% 56.0%	35.0% 35.4% 38.0% 40.5% 44.3% 1 35.0% 35.6% 38.4% 40.6%	28.2% 28.6% 29.7% 32.1% 32.7% 2 28.4% 28.9% 30.2% 32.5%	24.5% 24.8% 25.6% 25.4% 25.5% 3 24.8% 25.3% 26.1%	15.6% 15.6% 14.1% 16.7% 15.5% 5 16.0% 16.3% 14.7%	2.0% 1.9% 1.4% 0.0% 0.0% 10 2.7% 2.4% 1.7% 0.0%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom)	100.0% 100.0% 100.0% 100.0% Salinity (pp 0.1 100.0% 100.0% 100.0% 100.0% Salinity (pp	94.9% 95.5% 96.1% 96.2% 95.6% ot) greater 0.25 94.9% 95.5% 96.1% 96.2% 95.6% ot) greater	46.4% 47.8% 51.5% 52.7% 55.9% than 0.5 46.5% 47.8% 52.6% 53.1% 56.0%	35.0% 35.4% 38.0% 40.5% 44.3% 1 35.0% 35.6% 38.4% 40.6% 44.6%	28.2% 28.6% 29.7% 32.1% 32.7% 2 28.4% 28.9% 30.2% 32.5% 33.2%	24.5% 24.8% 25.6% 25.4% 25.5% 3 24.8% 25.3% 26.1% 26.2%	15.6% 15.6% 14.1% 16.7% 15.5% 5 16.0% 16.3% 14.7% 17.4%	2.0% 1.9% 1.4% 0.0% 0.0% 10 2.7% 2.4% 1.7% 0.0%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day)	100.0% 100.0% 100.0% 100.0% 100.0% Salinity (pp 0.1 100.0% 100.0% 100.0% Salinity (pp 0.1) 100.0%	94.9% 95.5% 96.1% 96.2% 95.6% ot) greater 0.25 94.9% 95.5% 96.1% 96.2% 95.6% ot) greater	46.4% 47.8% 51.5% 52.7% 55.9% than 0.5 46.5% 47.8% 52.6% 53.1% 56.0% than 0.5	35.0% 35.4% 38.0% 40.5% 44.3% 1 35.0% 35.6% 38.4% 40.6% 44.6%	28.2% 28.6% 29.7% 32.1% 32.7% 2 28.4% 28.9% 30.2% 32.5% 33.2%	24.5% 24.8% 25.6% 25.4% 25.5% 3 24.8% 25.3% 26.1% 26.2%	15.6% 15.6% 14.1% 16.7% 15.5% 5 16.0% 16.3% 14.7% 17.4% 16.1%	2.0% 1.9% 1.4% 0.0% 0.0% 10 2.7% 2.4% 1.7% 0.0% 0.0%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day)	100.0% 100.0% 100.0% 100.0% 100.0% Salinity (pp 0.1 100.0% 100.0% 100.0% Salinity (pp 0.1 100.0%	94.9% 95.5% 96.1% 96.2% 95.6% ot) greater 0.25 94.9% 95.5% 96.1% 96.2% 95.6% ot) greater 0.25 94.9%	46.4% 47.8% 51.5% 52.7% 55.9% than 0.5 46.5% 47.8% 52.6% 53.1% 56.0% than 0.5 46.5%	35.0% 35.4% 38.0% 40.5% 44.3% 1 35.0% 35.6% 38.4% 40.6% 44.6% 1 35.0%	28.2% 28.6% 29.7% 32.1% 32.7% 2 28.4% 30.2% 32.5% 33.2% 2 28.4%	24.5% 24.8% 25.6% 25.4% 25.5% 3 24.8% 25.3% 26.1% 26.2% 3 25.0%	15.6% 15.6% 14.1% 16.7% 15.5% 5 16.0% 14.7% 17.4% 16.1%	2.0% 1.9% 1.4% 0.0% 0.0% 10 2.7% 2.4% 1.7% 0.0% 10 3.2%
1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day) 1 7	100.0% 100.0% 100.0% 100.0% 100.0% Salinity (pp 0.1 100.0% 100.0% 100.0% Salinity (pp 0.1 100.0% 100.0% 100.0%	94.9% 95.5% 96.1% 96.2% 95.6% ot) greater 0.25 94.9% 96.1% 96.2% 95.6% ot) greater 0.25	46.4% 47.8% 51.5% 52.7% 55.9% than 0.5 46.5% 47.8% 56.0% than 0.5 46.5% 47.8%	35.0% 35.4% 38.0% 40.5% 44.3% 1 35.0% 35.6% 38.4% 40.6% 44.6% 1 35.0% 35.6%	28.2% 28.6% 29.7% 32.1% 32.7% 2 28.4% 30.2% 32.5% 33.2% 2 28.4% 29.1%	24.5% 24.8% 25.6% 25.4% 25.5% 3 24.8% 25.3% 26.1% 26.2% 3 25.0% 25.4%	15.6% 15.6% 14.1% 16.7% 15.5% 5 16.0% 14.7% 17.4% 16.1% 5 16.3% 16.6%	2.0% 1.9% 1.4% 0.0% 0.0% 10 2.7% 2.4% 1.7% 0.0% 0.0% 10 3.2% 3.0%

Table D.8 Percent of Time Model Results Exceeds Salinity Levels for Baseline at 40 ft (Shands Bridge Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (p	ot) greater	than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	100.0%	95.7%	33.8%	15.1%	8.9%	6.0%	1.0%	0.0%
7	100.0%	95.7%	34.4%	15.0%	9.1%	5.8%	1.0%	0.0%
30	100.0%	95.7%	37.0%	15.9%	8.7%	5.5%	0.0%	0.0%
60	100.0%	95.9%	38.0%	19.8%	9.2%	3.9%	0.0%	0.0%
90	100.0%	96.0%	40.4%	22.7%	10.5%	1.6%	0.0%	0.0%
Layer 5	Salinity (pp	ot) greater	than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	100.0%	95.7%	33.8%	15.2%	9.4%	6.1%	1.5%	0.0%
7	100.0%	95.7%	34.4%	15.1%	9.5%	6.3%	1.2%	0.0%
30	100.0%	95.7%	37.0%	16.0%	9.3%	6.0%	0.4%	0.0%
60	100.0%	95.9%	38.1%	20.2%	9.7%	4.4%	0.0%	0.0%
90	100.0%	96.0%	40.6%	23.1%	11.3%	3.8%	0.0%	0.0%
Layer 4	Salinity (p	ot) greater	than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	100.0%	95.7%	33.8%	15.4%	9.6%	6.5%	2.1%	0.0%
7	100.0%	95.7%	34.4%	15.4%	9.6%	6.6%	1.9%	0.0%
30	100.0%	95.7%	37.0%	16.0%	9.7%	6.4%	1.0%	0.0%
60	100.0%	95.9%	38.2%	20.6%	10.1%	5.0%	0.0%	0.0%
90	100.0%	96.0%	41.1%	23.3%	11.9%	4.5%	0.0%	0.0%
Layer 3	Salinity (p	ot) greater	than					
Layer 3 Moving Average Period (day)	Salinity (pp	ot) greater 0.25	than 0.5	1	2	3	5	10
,	Ι			1 15.4%	2 9.8%	3 6.8%	5 2.4%	10 0.0%
Moving Average Period (day)	0.1	0.25	0.5					
Moving Average Period (day) 1	0.1 100.0%	0.25 95.7%	0.5 33.8%	15.4%	9.8%	6.8%	2.4%	0.0%
Moving Average Period (day) 1 7	0.1 100.0% 100.0%	0.25 95.7% 95.7%	0.5 33.8% 34.4%	15.4% 15.6%	9.8% 9.9%	6.8% 7.0%	2.4% 2.1%	0.0%
Moving Average Period (day) 1 7 30	0.1 100.0% 100.0% 100.0%	95.7% 95.7% 95.7%	0.5 33.8% 34.4% 37.0%	15.4% 15.6% 16.1%	9.8% 9.9% 9.9%	6.8% 7.0% 6.7%	2.4% 2.1% 1.6%	0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60	0.1 100.0% 100.0% 100.0%	95.7% 95.7% 95.7% 95.7% 95.9% 96.0%	0.5 33.8% 34.4% 37.0% 38.3% 41.1%	15.4% 15.6% 16.1% 20.7%	9.8% 9.9% 9.9% 10.4%	6.8% 7.0% 6.7% 5.8%	2.4% 2.1% 1.6% 0.0%	0.0% 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90	0.1 100.0% 100.0% 100.0% 100.0%	95.7% 95.7% 95.7% 95.7% 95.9% 96.0%	0.5 33.8% 34.4% 37.0% 38.3% 41.1%	15.4% 15.6% 16.1% 20.7%	9.8% 9.9% 9.9% 10.4%	6.8% 7.0% 6.7% 5.8%	2.4% 2.1% 1.6% 0.0%	0.0% 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2	0.1 100.0% 100.0% 100.0% 100.0% Salinity (pp	0.25 95.7% 95.7% 95.7% 95.9% 96.0% ot) greater	0.5 33.8% 34.4% 37.0% 38.3% 41.1%	15.4% 15.6% 16.1% 20.7% 23.5%	9.8% 9.9% 9.9% 10.4% 12.5%	6.8% 7.0% 6.7% 5.8% 4.9%	2.4% 2.1% 1.6% 0.0% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day)	0.1 100.0% 100.0% 100.0% 100.0% Salinity (pp	95.7% 95.7% 95.7% 95.9% 96.0% ot) greater	0.5 33.8% 34.4% 37.0% 38.3% 41.1% than 0.5	15.4% 15.6% 16.1% 20.7% 23.5%	9.8% 9.9% 9.9% 10.4% 12.5%	6.8% 7.0% 6.7% 5.8% 4.9%	2.4% 2.1% 1.6% 0.0% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1	0.1 100.0% 100.0% 100.0% 100.0% Salinity (pp 0.1 100.0%	0.25 95.7% 95.7% 95.9% 96.0% ot) greater 0.25 95.7%	0.5 33.8% 34.4% 37.0% 38.3% 41.1% than 0.5 33.8%	15.4% 15.6% 16.1% 20.7% 23.5% 1 15.4%	9.8% 9.9% 9.9% 10.4% 12.5% 2 9.9%	6.8% 7.0% 6.7% 5.8% 4.9% 3 6.9%	2.4% 2.1% 1.6% 0.0% 0.0% 5 3.1%	0.0% 0.0% 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7	0.1 100.0% 100.0% 100.0% 100.0% Salinity (pp 0.1 100.0% 100.0%	95.7% 95.7% 95.7% 95.9% 96.0% ot) greater 0.25 95.7%	0.5 33.8% 34.4% 37.0% 38.3% 41.1% than 0.5 33.8% 34.4%	15.4% 15.6% 16.1% 20.7% 23.5% 1 15.4% 15.6%	9.8% 9.9% 9.9% 10.4% 12.5% 2 9.9% 9.9%	6.8% 7.0% 6.7% 5.8% 4.9% 3 6.9% 7.2%	2.4% 2.1% 1.6% 0.0% 0.0% 5 3.1% 2.6%	0.0% 0.0% 0.0% 0.0% 0.0% 10 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30	0.1 100.0% 100.0% 100.0% 100.0% Salinity (pp 0.1 100.0% 100.0% 100.0%	0.25 95.7% 95.7% 95.9% 96.0% ot) greater 0.25 95.7% 95.7%	0.5 33.8% 34.4% 37.0% 38.3% 41.1% than 0.5 33.8% 34.4% 37.0%	15.4% 15.6% 16.1% 20.7% 23.5% 1 15.4% 15.6% 16.7%	9.8% 9.9% 9.9% 10.4% 12.5% 2 9.9% 9.9% 10.1%	6.8% 7.0% 6.7% 5.8% 4.9% 3 6.9% 7.2% 6.9%	2.4% 2.1% 1.6% 0.0% 0.0% 5 3.1% 2.6% 2.0%	0.0% 0.0% 0.0% 0.0% 0.0% 10 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60	0.1 100.0% 100.0% 100.0% 100.0% 100.0% Salinity (pp 0.1 100.0% 100.0% 100.0%	0.25 95.7% 95.7% 95.9% 96.0% ot) greater 0.25 95.7% 95.7% 95.7% 95.7% 96.0%	0.5 33.8% 34.4% 37.0% 38.3% 41.1% than 0.5 33.8% 34.4% 37.0% 38.4% 41.3%	15.4% 15.6% 16.1% 20.7% 23.5% 1 15.4% 15.6% 16.7% 20.8%	9.8% 9.9% 9.9% 10.4% 12.5% 2 9.9% 9.9% 10.1% 10.7%	6.8% 7.0% 6.7% 5.8% 4.9% 3 6.9% 7.2% 6.9% 6.4%	2.4% 2.1% 1.6% 0.0% 0.0% 5 3.1% 2.6% 2.0% 0.1%	0.0% 0.0% 0.0% 0.0% 0.0% 10 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90	0.1 100.0% 100.0% 100.0% 100.0% Salinity (pp 0.1 100.0% 100.0% 100.0% 100.0%	0.25 95.7% 95.7% 95.9% 96.0% ot) greater 0.25 95.7% 95.7% 95.7% 95.7% 96.0%	0.5 33.8% 34.4% 37.0% 38.3% 41.1% than 0.5 33.8% 34.4% 37.0% 38.4% 41.3%	15.4% 15.6% 16.1% 20.7% 23.5% 1 15.4% 15.6% 16.7% 20.8%	9.8% 9.9% 9.9% 10.4% 12.5% 2 9.9% 9.9% 10.1% 10.7%	6.8% 7.0% 6.7% 5.8% 4.9% 3 6.9% 7.2% 6.9% 6.4%	2.4% 2.1% 1.6% 0.0% 0.0% 5 3.1% 2.6% 2.0% 0.1%	0.0% 0.0% 0.0% 0.0% 0.0% 10 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom)	0.1 100.0% 100.0% 100.0% 100.0% Salinity (pp 0.1 100.0% 100.0% 100.0% 100.0% Salinity (pp	0.25 95.7% 95.7% 95.9% 96.0% ot) greater 0.25 95.7% 95.7% 95.7% 95.9% 96.0% ot) greater	0.5 33.8% 34.4% 37.0% 38.3% 41.1% than 0.5 33.8% 34.4% 37.0% 38.4% 41.3% than	15.4% 15.6% 16.1% 20.7% 23.5% 1 15.4% 15.6% 16.7% 20.8% 23.6%	9.8% 9.9% 9.9% 10.4% 12.5% 2 9.9% 9.9% 10.1% 10.7% 12.8%	6.8% 7.0% 6.7% 5.8% 4.9% 3 6.9% 7.2% 6.9% 6.4% 5.4%	2.4% 2.1% 1.6% 0.0% 0.0% 5 3.1% 2.6% 2.0% 0.1% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0% 10 0.0% 0.0% 0.0% 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day)	0.1 100.0% 100.0% 100.0% 100.0% Salinity (pp 0.1 100.0% 100.0% 100.0% 100.0% Salinity (pp 0.1) 0.1	0.25 95.7% 95.7% 95.9% 96.0% ot) greater 0.25 95.7% 95.7% 95.7% 95.9% 96.0% ot) greater	0.5 33.8% 34.4% 37.0% 38.3% 41.1% than 0.5 33.8% 34.4% 37.0% 38.4% 41.3% than 0.5	15.4% 15.6% 16.1% 20.7% 23.5% 1 15.4% 15.6% 20.8% 23.6%	9.8% 9.9% 9.9% 10.4% 12.5% 2 9.9% 9.9% 10.1% 12.8%	6.8% 7.0% 6.7% 5.8% 4.9% 3 6.9% 7.2% 6.9% 6.4% 5.4%	2.4% 2.1% 1.6% 0.0% 0.0% 5 3.1% 2.6% 2.0% 0.1% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0% 10 0.0% 0.0% 0.0% 10
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day)	0.1 100.0% 100.0% 100.0% 100.0% 100.0% Salinity (pp 0.1 100.0% 100.0% 100.0% Salinity (pp 0.1 100.0%	0.25 95.7% 95.7% 95.9% 96.0% ot) greater 0.25 95.7% 95.7% 95.7% 95.9% 96.0% ot) greater 0.25 95.7%	0.5 33.8% 34.4% 37.0% 38.3% 41.1% than 0.5 33.8% 34.4% 37.0% 41.3% than 0.5 33.8%	15.4% 15.6% 16.1% 20.7% 23.5% 1 15.4% 15.6% 20.8% 23.6%	9.8% 9.9% 9.9% 10.4% 12.5% 2 9.9% 10.1% 10.7% 12.8% 2 9.9%	6.8% 7.0% 6.7% 5.8% 4.9% 3 6.9% 7.2% 6.9% 5.4% 3 7.1%	2.4% 2.1% 1.6% 0.0% 0.0% 5 3.1% 2.6% 2.0% 0.1% 0.0%	0.0% 0.0% 0.0% 0.0% 0.0% 10 0.0% 0.0% 0.0% 10 0.0%
Moving Average Period (day) 1 7 30 60 90 Layer 2 Moving Average Period (day) 1 7 30 60 90 Layer 1 (Bottom) Moving Average Period (day) 1 7	0.1 100.0% 100.0% 100.0% 100.0% Salinity (pp 0.1 100.0% 100.0% 100.0% 100.0% 5alinity (pp 0.1 100.0% 100.0% 100.0%	0.25 95.7% 95.7% 95.9% 96.0% ot) greater 0.25 95.7% 95.7% 95.7% 95.7% 95.7% 95.7% 95.7% 95.7% 95.7%	0.5 33.8% 34.4% 37.0% 38.3% 41.1% than 0.5 33.8% 34.4% 37.0% 38.4% 41.3% than 0.5 33.8% 34.4%	15.4% 15.6% 16.1% 20.7% 23.5% 1 15.4% 15.6% 16.7% 20.8% 23.6% 1 15.5% 15.6%	9.8% 9.9% 9.9% 10.4% 12.5% 2 9.9% 10.1% 10.7% 12.8% 2 9.9% 10.0%	6.8% 7.0% 6.7% 5.8% 4.9% 3 6.9% 7.2% 6.9% 6.4% 5.4% 3 7.1% 7.3%	2.4% 2.1% 1.6% 0.0% 0.0% 5 3.1% 2.6% 2.0% 0.1% 0.0% 5 3.2% 3.1%	0.0% 0.0% 0.0% 0.0% 0.0% 10 0.0% 0.0% 0

Table D.9 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 44 ft vs. Baseline at 40 ft (Dames Point Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (opt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	0.5%	0.4%	2.4%	3.7%	4.0%	3.7%	0.3%	0.0%
7	0.4%	0.6%	1.8%	3.9%	4.5%	4.0%	0.2%	0.0%
30	0.0%	0.5%	1.3%	3.5%	5.7%	5.7%	0.0%	0.0%
60	0.0%	0.0%	2.1%	2.4%	5.2%	3.0%	0.0%	0.0%
90	0.0%	0.0%	1.2%	1.4%	3.6%	3.0%	0.0%	0.0%
Layer 5	Salinity (opt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	0.2%	0.5%	1.1%	1.8%	2.5%	1.4%	0.2%	0.0%
7	0.0%	0.4%	0.6%	2.4%	1.7%	1.7%	0.5%	0.0%
30	0.0%	0.0%	0.8%	1.5%	1.0%	1.7%	0.8%	0.0%
60	0.0%	0.0%	0.9%	1.4%	1.7%	1.8%	1.6%	0.0%
90	0.0%	0.0%	0.0%	1.2%	1.6%	2.1%	0.3%	0.0%
Layer 4	Salinity (opt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	0.0%	0.2%	0.3%	1.0%	1.3%	0.5%	0.3%	0.0%
7	0.0%	0.0%	0.5%	0.8%	1.7%	0.6%	0.4%	0.0%
30	0.0%	0.0%	0.6%	0.8%	1.3%	0.8%	0.3%	0.0%
60	0.0%	0.0%	0.0%	1.7%	1.2%	1.2%	0.4%	0.0%
90	0.0%	0.0%	0.0%	0.8%	0.5%	1.2%	2.1%	0.0%
Layer 3	Salinity (opt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	0.0%	0.0%	0.4%	0.7%	0.7%	0.0%	-0.2%	0.0%
7	0.0%	0.0%	0.2%	0.3%	1.0%	0.0%	0.1%	0.0%
30	0.0%	0.0%	0.0%	0.4%	0.5%	-0.4%	0.5%	0.0%
60	0.0%	0.0%	0.0%	0.6%	0.4%	0.2%	0.3%	0.0%
90	0.0%	0.0%	0.0%	0.0%	0.2%	-0.9%	0.5%	0.0%
Layer 2	Salinity (opt) greate	r than				1	
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	0.0%	0.0%	0.3%	0.2%	0.5%	-0.5%	0.0%	0.0%
7	0.0%	0.0%	0.3%	0.3%	0.5%	0.2%	0.0%	0.0%
30	0.0%	0.0%	0.0%	0.2%	0.2%	-0.9%	0.5%	0.0%
60	0.0%	0.0%	0.0%	0.0%	0.9%	0.2%	0.0%	0.0%
90	0.0%	0.0%	0.0%	0.0%	0.3%	-0.3%	0.0%	0.0%
Layer 1 (Bottom)		opt) greate						
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	0.0%	0.0%	0.2%	0.4%	0.4%	-0.4%	-1.6%	0.0%
7	0.0%	0.0%	0.0%	0.3%	0.2%	-0.3%	-1.2%	0.0%
30	0.0%	0.0%	0.0%	0.1%	0.4%	0.3%	-0.6%	0.0%
60	0.0%	0.0%	0.0%	0.0%	0.3%	-0.2%	-0.8%	0.0%
90	0.0%	0.0%	0.0%	0.0%	0.7%	-0.2%	-1.8%	0.0%

Table D.10 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 44 ft vs. Baseline at 40 ft (Acosta Bridge Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (opt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	3.4%	4.0%	4.4%	3.7%	2.0%	0.3%	0.0%	0.0%
7	3.4%	3.6%	5.1%	5.1%	1.6%	0.2%	0.0%	0.0%
30	2.9%	5.7%	5.4%	4.7%	2.1%	0.0%	0.0%	0.0%
60	4.0%	2.6%	7.0%	3.7%	2.2%	0.0%	0.0%	0.0%
90	4.6%	2.6%	4.5%	3.3%	1.1%	0.0%	0.0%	0.0%
Layer 5	Salinity (opt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	3.0%	3.7%	5.2%	3.8%	2.4%	0.4%	0.0%	0.0%
7	2.4%	4.5%	4.7%	3.9%	2.2%	0.2%	0.0%	0.0%
30	2.1%	5.4%	5.2%	3.7%	3.0%	0.0%	0.0%	0.0%
60	1.6%	4.2%	6.7%	4.1%	2.4%	0.0%	0.0%	0.0%
90	1.1%	2.5%	7.3%	2.9%	4.5%	0.0%	0.0%	0.0%
Layer 4	Salinity (opt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	2.9%	3.4%	5.3%	5.2%	2.5%	0.5%	0.0%	0.0%
7	1.8%	4.1%	5.0%	3.3%	3.6%	0.2%	0.0%	0.0%
30	1.5%	4.7%	3.6%	3.3%	3.1%	0.0%	0.0%	0.0%
60	2.5%	3.1%	4.5%	4.4%	2.3%	0.0%	0.0%	0.0%
90	0.8%	2.7%	7.8%	3.4%	4.7%	0.0%	0.0%	0.0%
Layer 3	Salinity (opt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	2.4%	3.6%	5.3%	5.0%	3.1%	0.5%	0.0%	0.0%
7	2.0%	3.7%	4.7%	3.3%	3.4%	0.3%	0.0%	0.0%
30	1.2%	3.5%	3.0%	3.2%	3.1%	0.0%	0.0%	0.0%
60	2.4%	3.0%	4.9%	4.3%	3.1%	0.0%	0.0%	0.0%
90	1.0%	2.9%	8.5%	4.4%	4.6%	0.0%	0.0%	0.0%
Layer 2	Salinity (opt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	2.1%	3.6%	4.9%	4.1%	2.9%	0.5%	0.0%	0.0%
7	2.0%	3.5%	5.2%	3.6%	3.7%	0.5%	0.0%	0.0%
30	1.3%	2.9%	3.1%	3.4%	3.7%	0.0%	0.0%	0.0%
60	1.8%	3.5%	4.2%	3.7%	6.0%	0.0%	0.0%	0.0%
90	1.0%	3.9%	5.6%	6.5%	3.1%	0.0%	0.0%	0.0%
Layer 1 (Bottom)	Salinity (opt) greate	r than					
Moving Average Period (day)	3	5	10	15	20	25	30	35
1	2.1%	3.4%	4.7%	4.1%	3.0%	0.4%	0.0%	0.0%
7	2.0%	3.6%	5.6%	4.1%	3.9%	0.4%	0.0%	0.0%
30	1.3%	2.6%	2.8%	3.9%	3.1%	0.0%	0.0%	0.0%
60	1.4%	3.8%	4.6%	3.6%	7.1%	0.0%	0.0%	0.0%
90	1.0%	4.3%	4.3%	6.8%	3.0%	0.0%	0.0%	0.0%

Table D.11 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 44 ft vs. Baseline at 40 ft (SAVPTLV Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.1%	0.7%	1.0%	1.6%	2.6%	1.4%	1.0%	0.4%
7	0.3%	0.6%	1.1%	1.4%	2.4%	1.6%	0.6%	0.1%
30	0.0%	0.4%	0.9%	1.0%	1.9%	2.2%	1.2%	0.0%
60	0.0%	0.1%	0.4%	1.0%	3.5%	1.6%	0.9%	0.0%
90	0.0%	0.0%	0.2%	2.3%	6.3%	1.3%	1.8%	0.0%
Layer 5	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.1%	0.7%	1.0%	1.6%	2.5%	1.9%	1.4%	0.2%
7	0.2%	0.6%	1.2%	2.1%	1.6%	1.4%	1.1%	0.2%
30	0.0%	0.1%	0.5%	2.1%	1.5%	1.5%	2.2%	0.0%
60	0.0%	0.1%	0.1%	0.8%	2.9%	2.2%	1.1%	0.0%
90	0.0%	0.0%	0.2%	1.7%	4.5%	1.2%	3.1%	0.0%
Layer 4	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.1%	0.7%	1.1%	1.6%	2.3%	1.6%	1.3%	0.4%
7	0.2%	0.6%	1.2%	1.9%	2.0%	1.4%	1.6%	0.1%
30	0.0%	0.1%	0.4%	2.3%	1.0%	1.5%	1.5%	0.0%
60	0.0%	0.2%	0.1%	0.8%	2.2%	2.4%	1.4%	0.0%
90	0.0%	0.0%	0.2%	0.7%	3.2%	1.1%	2.7%	0.0%
Layer 3	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.1%	0.8%	1.3%	1.8%	2.1%	1.7%	1.0%	0.3%
7	0.2%	0.7%	1.2%	1.6%	2.7%	1.7%	1.1%	0.0%
30	0.0%	0.1%	0.4%	1.9%	1.2%	1.3%	1.0%	0.0%
60	0.0%	0.2%	0.2%	0.9%	2.3%	1.9%	1.1%	0.0%
90	0.0%	0.0%	0.2%	0.7%	4.3%	1.3%	2.1%	0.0%
Layer 2	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.1%	0.8%	1.4%	1.9%	2.1%	2.0%	1.4%	0.4%
7	0.2%	0.7%	1.4%	1.7%	2.6%	1.9%	1.1%	0.2%
30	0.0%	0.1%	0.2%	2.1%	1.2%	1.3%	1.4%	0.0%
60	0.0%	0.2%	0.2%	1.0%	2.2%	1.6%	1.0%	0.0%
90	0.0%	0.0%	0.2%	0.5%	4.5%	1.5%	1.5%	0.0%
Layer 1 (Bottom)	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.1%	0.8%	1.4%	1.7%	2.1%	1.8%	1.5%	0.5%
7	0.2%	0.7%	1.4%	1.6%	2.6%	1.9%	1.0%	0.2%
30	0.0%	0.1%	0.2%	2.2%	1.3%	1.4%	1.4%	0.0%
60	0.0%	0.2%	0.2%	0.9%	2.2%	1.3%	1.0%	0.0%
90	0.0%	0.0%	0.2%	0.6%	4.2%	1.6%	1.4%	0.0%

Table D.12 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 44 ft vs. Baseline at 40 ft (JAXSJR40 Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (ı	opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.6%	1.2%	2.3%	2.1%	2.3%	0.7%	0.1%
7	0.1%	1.0%	1.7%	2.4%	2.4%	2.0%	1.2%	0.1%
30	0.3%	0.2%	1.6%	1.4%	2.1%	1.3%	1.2%	0.0%
60	0.0%	0.4%	2.6%	2.7%	2.1%	1.1%	0.7%	0.0%
90	0.0%	0.1%	1.8%	3.6%	1.8%	2.3%	0.5%	0.0%
Layer 5	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.6%	1.0%	2.6%	2.0%	1.6%	0.6%	0.2%
7	0.1%	1.1%	1.5%	3.3%	2.0%	2.0%	1.2%	0.1%
30	0.3%	0.3%	0.9%	1.5%	5.3%	1.5%	0.8%	0.0%
60	0.0%	0.2%	1.6%	2.1%	2.4%	1.7%	1.0%	0.0%
90	0.0%	0.5%	2.7%	1.8%	2.2%	1.8%	2.1%	0.0%
Layer 4	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.6%	1.2%	2.2%	1.7%	1.4%	1.3%	0.3%
7	0.2%	1.2%	1.3%	2.4%	2.6%	1.6%	1.2%	0.2%
30	0.1%	0.5%	0.9%	1.2%	3.4%	0.8%	1.0%	0.0%
60	0.0%	0.4%	1.4%	1.9%	3.5%	1.2%	1.1%	0.0%
90	0.0%	1.0%	2.3%	2.0%	2.6%	1.3%	1.2%	0.0%
Layer 3	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.7%	1.2%	2.0%	1.7%	1.7%	1.0%	0.3%
7	0.2%	1.1%	0.9%	2.1%	2.0%	1.0%	1.0%	0.1%
30	0.1%	0.7%	1.4%	1.0%	3.4%	1.3%	0.8%	0.0%
60	0.0%	0.5%	0.6%	2.2%	3.6%	0.9%	0.7%	0.0%
90	0.0%	1.6%	1.7%	1.4%	3.2%	1.0%	1.5%	0.0%
Layer 2	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.7%	1.2%	2.1%	2.1%	1.3%	1.1%	0.1%
7	0.2%	1.1%	1.0%	2.2%	1.9%	1.0%	0.9%	0.1%
30	0.2%	0.8%	1.4%	1.1%	1.9%	1.9%	1.3%	0.0%
60	0.0%	0.3%	0.4%	2.0%	3.5%	2.5%	1.0%	0.0%
90	0.0%	1.1%	1.5%	1.1%	4.1%	0.9%	2.6%	0.0%
Layer 1 (Bottom)	1	opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.8%	1.4%	1.9%	2.4%	1.3%	1.0%	0.3%
7	0.2%	0.9%	1.1%	2.1%	1.6%	1.2%	1.2%	0.1%
30	0.2%	0.8%	1.3%	1.1%	1.7%	1.4%	0.9%	0.1%
60	0.0%	0.1%	0.2%	1.6%	2.8%	1.9%	1.2%	0.0%
90	0.0%	0.5%	1.4%	1.5%	6.0%	0.8%	2.1%	0.0%

Table D.13 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 44 ft vs. Baseline at 40 ft (SAVBOLS Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.1%	1.0%	1.6%	1.7%	1.4%	0.4%	0.1%
7	0.0%	2.0%	1.3%	1.9%	1.7%	1.7%	0.3%	0.0%
30	0.0%	0.4%	1.6%	3.4%	2.1%	1.2%	0.7%	0.0%
60	0.1%	0.3%	0.4%	3.6%	1.3%	1.6%	0.0%	0.0%
90	0.0%	0.5%	0.4%	3.3%	1.9%	0.8%	0.0%	0.0%
Layer 5	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.1%	1.0%	1.8%	1.6%	1.7%	0.4%	0.0%
7	0.0%	2.0%	1.2%	2.1%	1.4%	1.5%	0.4%	0.0%
30	0.0%	0.5%	1.7%	3.2%	2.1%	1.4%	0.8%	0.0%
60	0.1%	0.2%	0.5%	3.4%	1.3%	1.5%	0.0%	0.0%
90	0.0%	0.5%	0.4%	3.4%	2.3%	1.2%	0.0%	0.0%
Layer 4	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.1%	1.0%	1.7%	1.6%	1.6%	0.4%	0.0%
7	0.0%	2.0%	1.2%	2.1%	1.7%	1.3%	0.5%	0.0%
30	0.0%	0.5%	1.6%	2.6%	1.8%	1.6%	0.4%	0.0%
60	0.1%	0.1%	0.5%	3.1%	1.2%	1.2%	0.0%	0.0%
90	0.0%	0.5%	0.5%	3.8%	2.2%	1.5%	0.0%	0.0%
Layer 3	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.0%	0.9%	1.7%	1.6%	2.1%	0.5%	0.0%
7	0.0%	1.9%	1.2%	2.1%	1.7%	1.5%	0.5%	0.0%
30	0.0%	0.5%	1.6%	2.4%	1.7%	1.6%	0.4%	0.0%
60	0.1%	0.1%	0.5%	2.6%	1.1%	1.1%	0.2%	0.0%
90	0.0%	0.6%	0.5%	4.5%	2.2%	1.7%	0.0%	0.0%
Layer 2	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.1%	0.9%	1.6%	1.4%	2.1%	0.4%	0.0%
7	0.0%	1.8%	1.3%	2.3%	1.6%	1.5%	0.4%	0.0%
30	0.0%	0.5%	1.6%	2.6%	1.6%	1.6%	0.3%	0.0%
60	0.1%	0.1%	0.5%	2.3%	1.2%	1.2%	0.4%	0.0%
90	0.0%	1.0%	0.4%	4.4%	2.0%	1.7%	0.0%	0.0%
Layer 1 (Bottom)	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.2%	0.8%	1.8%	1.3%	1.7%	0.2%	0.1%
7	0.0%	1.8%	1.3%	2.1%	1.6%	1.4%	0.3%	0.0%
30	0.0%	0.5%	1.4%	2.6%	1.4%	1.2%	0.3%	0.0%
60	0.1%	0.1%	0.5%	2.2%	1.3%	1.4%	0.5%	0.0%
90	0.0%	1.2%	0.4%	4.5%	1.5%	1.7%	0.0%	0.0%

Table D.14 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 44 ft vs. Baseline at 40 ft (Buckman Bridge Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.1%	1.3%	3.0%	2.9%	3.1%	1.4%	0.2%	0.0%
7	0.0%	1.6%	2.5%	2.8%	3.0%	1.6%	0.4%	0.0%
30	0.1%	2.4%	1.4%	2.9%	2.1%	1.6%	0.0%	0.0%
60	0.3%	1.6%	3.1%	2.5%	2.1%	2.1%	0.0%	0.0%
90	0.2%	0.3%	2.3%	4.1%	1.9%	1.9%	0.0%	0.0%
Layer 5	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.1%	1.3%	3.2%	3.1%	2.2%	2.5%	0.4%	0.0%
7	0.0%	1.5%	3.0%	3.3%	2.1%	2.4%	0.3%	0.0%
30	0.1%	2.3%	1.9%	3.2%	1.9%	2.1%	0.2%	0.0%
60	0.4%	1.5%	1.6%	4.0%	3.0%	2.6%	0.0%	0.0%
90	0.3%	0.3%	2.9%	3.0%	1.9%	2.7%	0.0%	0.0%
Layer 4	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.1%	1.4%	3.1%	3.3%	2.4%	2.7%	0.6%	0.1%
7	0.0%	1.4%	3.0%	2.9%	2.7%	2.3%	0.6%	0.0%
30	0.1%	2.2%	1.4%	2.3%	2.0%	2.6%	0.8%	0.0%
60	0.4%	1.3%	1.1%	5.0%	1.9%	4.2%	0.0%	0.0%
90	0.2%	0.4%	3.5%	2.9%	2.7%	2.7%	0.0%	0.0%
Layer 3	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.1%	1.4%	2.9%	3.2%	2.3%	2.7%	1.2%	0.0%
7	0.0%	1.3%	2.7%	3.1%	2.5%	2.7%	1.5%	0.1%
30	0.1%	2.4%	1.0%	3.9%	2.7%	3.5%	0.6%	0.0%
60	0.4%	1.8%	1.1%	4.9%	2.8%	2.2%	1.3%	0.0%
90	0.2%	0.5%	3.2%	3.6%	4.9%	3.1%	0.0%	0.0%
Layer 2	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.1%	1.4%	2.8%	3.1%	2.6%	2.6%	1.2%	0.1%
7	0.0%	1.3%	2.7%	3.5%	2.1%	2.5%	1.0%	0.1%
30	0.1%	2.5%	0.8%	4.8%	3.5%	3.9%	1.3%	0.0%
60	0.4%	2.2%	1.5%	4.3%	2.5%	2.1%	1.5%	0.0%
90	0.2%	0.6%	1.6%	5.3%	3.8%	1.9%	0.0%	0.0%
Layer 1 (Bottom)	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.1%	1.4%	2.8%	3.1%	2.2%	2.3%	0.8%	0.4%
7	0.0%	1.3%	2.6%	3.9%	2.5%	3.2%	1.0%	0.1%
30	0.1%	2.5%	0.8%	5.1%	3.5%	3.4%	1.6%	0.0%
60	0.4%	2.2%	1.7%	3.0%	2.1%	2.1%	1.2%	0.0%
90	0.2%	0.6%	1.0%	5.3%	4.0%	2.4%	1.0%	0.0%

Table D.15 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 44 ft vs. Baseline at 40 ft (SJRHBP Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (opt) greate	r than							
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10		
1	0.0%	0.0%	1.4%	0.9%	0.4%	0.8%	0.9%	0.1%		
7	0.0%	0.0%	0.9%	1.0%	0.2%	0.6%	0.8%	0.0%		
30	0.0%	0.0%	2.0%	0.5%	0.5%	0.6%	0.5%	0.0%		
60	0.0%	0.1%	0.5%	0.9%	0.8%	0.8%	0.4%	0.0%		
90	0.0%	0.3%	1.0%	0.4%	0.5%	0.2%	0.5%	0.0%		
Layer 5	Salinity (opt) greate	r than							
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10		
1	0.0%	0.0%	1.6%	0.7%	0.5%	0.5%	0.5%	0.2%		
7	0.0%	0.0%	0.9%	0.7%	0.6%	0.5%	0.5%	0.1%		
30	0.0%	0.0%	1.0%	0.5%	0.3%	0.4%	0.4%	0.0%		
60	0.0%	0.1%	0.6%	0.5%	0.5%	0.6%	1.7%	0.0%		
90	0.0%	0.3%	1.3%	2.2%	0.4%	0.8%	0.5%	0.0%		
Layer 4	Layer 4 Salinity (ppt) greater than									
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10		
1	0.0%	0.0%	1.6%	0.6%	0.4%	0.4%	0.6%	0.1%		
7	0.0%	0.0%	0.9%	0.8%	0.7%	0.3%	0.5%	0.1%		
30	0.0%	0.0%	0.8%	0.5%	0.5%	0.4%	0.4%	0.2%		
60	0.0%	0.1%	1.1%	0.3%	0.5%	0.9%	1.0%	0.0%		
90	0.0%	0.3%	1.2%	0.6%	0.5%	0.7%	0.4%	0.0%		
Layer 3	Salinity (opt) greate	r than							
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10		
1	0.0%	0.0%	1.6%	0.5%	0.4%	0.4%	0.4%	0.2%		
7	0.0%	0.0%	0.8%	0.7%	0.5%	0.5%	0.4%	0.3%		
30	0.0%	0.0%	1.9%	0.6%	0.6%	0.4%	0.3%	0.2%		
60	0.0%	0.1%	2.4%	0.5%	0.5%	0.6%	0.4%	0.0%		
90	0.0%	0.3%	1.6%	0.4%	0.5%	0.5%	0.4%	0.0%		
Layer 2		opt) greate	r than	,			1			
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10		
1	0.0%	0.0%	1.5%	0.6%	0.4%	0.5%	0.6%	0.3%		
7	0.0%	0.0%	0.9%	0.6%	0.4%	0.3%	0.2%	0.2%		
30	0.0%	0.0%	0.9%	0.5%	0.6%	0.3%	0.3%	0.1%		
60	0.0%	0.1%	2.9%	0.5%	0.5%	0.7%	0.2%	0.0%		
90	0.0%	0.3%	1.9%	0.5%	0.4%	1.2%	0.4%	0.0%		
Layer 1 (Bottom)		opt) greate	r than					1		
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10		
1	0.0%	0.0%	1.5%	0.6%	0.4%	0.4%	0.6%	0.2%		
7	0.0%	0.0%	0.9%	0.7%	0.5%	0.3%	0.2%	0.4%		
30	0.0%	0.0%	0.9%	0.5%	0.7%	0.4%	0.5%	0.1%		
60	0.0%	0.1%	3.3%	0.6%	0.5%	0.7%	0.3%	0.5%		
90	0.0%	0.3%	2.0%	0.5%	0.5%	1.0%	0.5%	0.0%		

Table D.16 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 44 ft vs. Baseline at 40 ft (Shands Bridge Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (opt) greate	r than								
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10			
1	0.0%	0.0%	0.4%	1.5%	0.9%	0.3%	0.3%	0.0%			
7	0.0%	0.0%	0.4%	1.6%	0.8%	0.8%	0.2%	0.0%			
30	0.0%	0.0%	0.4%	1.3%	1.3%	0.8%	0.3%	0.0%			
60	0.0%	0.0%	0.7%	1.4%	1.0%	1.1%	0.0%	0.0%			
90	0.0%	0.0%	1.0%	1.0%	1.4%	2.2%	0.0%	0.0%			
Layer 5	Salinity (opt) greate	r than								
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10			
1	0.0%	0.0%	0.4%	1.4%	0.6%	0.9%	0.3%	0.0%			
7	0.0%	0.0%	0.4%	1.9%	0.7%	0.8%	0.4%	0.0%			
30	0.0%	0.0%	0.4%	1.8%	1.4%	0.7%	0.5%	0.0%			
60	0.0%	0.0%	0.7%	1.4%	0.9%	1.5%	0.0%	0.0%			
90	0.0%	0.0%	0.9%	0.9%	1.2%	0.8%	0.0%	0.0%			
Layer 4	Layer 4 Salinity (ppt) greater than										
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10			
1	0.0%	0.0%	0.4%	1.2%	0.8%	0.7%	0.4%	0.0%			
7	0.0%	0.0%	0.4%	1.9%	0.8%	0.8%	0.5%	0.0%			
30	0.0%	0.0%	0.4%	2.5%	1.5%	0.7%	0.5%	0.0%			
60	0.0%	0.0%	0.8%	1.2%	0.8%	1.5%	0.0%	0.0%			
90	0.0%	0.0%	0.5%	0.9%	1.1%	0.7%	0.0%	0.0%			
Layer 3	Salinity (opt) greate	r than								
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10			
1	0.0%	0.0%	0.4%	1.4%	0.9%	0.6%	0.6%	0.0%			
7	0.0%	0.0%	0.4%	1.8%	0.7%	0.5%	0.7%	0.0%			
30	0.0%	0.0%	0.3%	2.8%	1.6%	0.6%	0.5%	0.0%			
60	0.0%	0.0%	0.9%	1.4%	0.8%	1.2%	0.7%	0.0%			
90	0.0%	0.0%	0.7%	0.9%	0.9%	0.9%	0.0%	0.0%			
Layer 2	Salinity (opt) greate	r than								
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10			
1	0.0%	0.0%	0.4%	1.4%	0.9%	0.7%	0.5%	0.0%			
7	0.0%	0.0%	0.4%	1.8%	0.7%	0.4%	0.8%	0.0%			
30	0.0%	0.0%	0.3%	2.9%	1.7%	0.6%	0.6%	0.0%			
60	0.0%	0.0%	0.8%	1.4%	0.9%	1.2%	1.3%	0.0%			
90	0.0%	0.0%	0.6%	1.0%	1.4%	0.9%	0.0%	0.0%			
Layer 1 (Bottom)	1	opt) greate	r than								
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10			
1	0.0%	0.0%	0.4%	1.3%	0.9%	0.7%	0.5%	0.0%			
7	0.0%	0.0%	0.4%	1.9%	0.9%	0.3%	0.7%	0.0%			
30	0.0%	0.0%	0.3%	3.2%	1.5%	1.0%	0.5%	0.0%			
60	0.0%	0.0%	0.7%	1.6%	1.6%	1.0%	0.6%	0.0%			
90	0.0%	0.0%	0.5%	1.0%	1.8%	0.8%	0.0%	0.0%			

Table D.17 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 46 ft vs. Baseline at 40 ft (Dames Point Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (opt) greate	r than							
Moving Average Period (day)	3	5	10	15	20	25	30	35		
1	0.8%	0.5%	2.6%	4.3%	4.9%	4.1%	0.4%	0.0%		
7	0.4%	0.8%	2.2%	4.7%	5.2%	4.5%	0.2%	0.0%		
30	0.0%	0.5%	1.5%	4.0%	6.6%	6.5%	0.1%	0.0%		
60	0.0%	0.0%	2.4%	3.0%	6.1%	3.5%	0.0%	0.0%		
90	0.0%	0.0%	1.3%	1.7%	4.3%	3.3%	0.0%	0.0%		
Layer 5	Salinity (opt) greate	r than							
Moving Average Period (day)	3	5	10	15	20	25	30	35		
1	0.2%	0.6%	1.2%	1.9%	2.8%	1.2%	0.1%	0.0%		
7	0.0%	0.5%	0.8%	2.5%	1.9%	1.6%	0.2%	0.0%		
30	0.0%	0.0%	0.9%	1.5%	1.1%	1.6%	0.7%	0.0%		
60	0.0%	0.0%	1.0%	1.6%	1.9%	1.8%	1.4%	0.0%		
90	0.0%	0.0%	0.0%	1.6%	1.9%	2.1%	0.0%	0.0%		
Layer 4 Salinity (ppt) greater than										
Moving Average Period (day)	3	5	10	15	20	25	30	35		
1	0.0%	0.2%	0.4%	1.0%	1.4%	0.3%	-0.4%	0.0%		
7	0.0%	0.0%	0.6%	0.9%	1.6%	0.4%	0.0%	0.0%		
30	0.0%	0.0%	0.6%	0.9%	1.2%	0.4%	0.2%	0.0%		
60	0.0%	0.0%	0.0%	1.7%	1.2%	0.7%	0.2%	0.0%		
90	0.0%	0.0%	0.0%	0.8%	0.5%	1.0%	1.5%	0.0%		
Layer 3	Salinity (opt) greate	r than							
Moving Average Period (day)	3	5	10	15	20	25	30	35		
1	0.0%	0.0%	0.5%	0.7%	0.5%	-0.1%	-0.6%	0.0%		
7	0.0%	0.0%	0.2%	0.4%	1.0%	-0.1%	-0.5%	0.0%		
30	0.0%	0.0%	0.0%	0.4%	0.5%	-0.7%	0.3%	0.0%		
60	0.0%	0.0%	0.0%	0.6%	0.4%	0.0%	0.0%	0.0%		
90	0.0%	0.0%	0.0%	0.0%	0.2%	-1.7%	-0.4%	0.0%		
Layer 2	Salinity (opt) greate	r than							
Moving Average Period (day)	3	5	10	15	20	25	30	35		
1	0.0%	0.0%	0.4%	0.2%	0.5%	-0.5%	-0.4%	0.0%		
7	0.0%	0.0%	0.3%	0.4%	0.4%	0.0%	-0.3%	0.0%		
30	0.0%	0.0%	0.0%	0.3%	0.3%	-1.3%	0.1%	0.0%		
60	0.0%	0.0%	0.0%	0.0%	0.9%	-0.2%	-0.1%	0.0%		
90	0.0%	0.0%	0.0%	0.0%	0.3%	-0.7%	-0.1%	0.0%		
Layer 1 (Bottom)	Salinity (ppt) greate	r than							
Moving Average Period (day)	3	5	10	15	20	25	30	35		
1	0.0%	0.0%	0.3%	0.4%	0.5%	-0.3%	-2.1%	0.0%		
7	0.0%	0.0%	0.0%	0.4%	0.2%	-0.3%	-1.6%	0.0%		
30	0.0%	0.0%	0.0%	0.1%	0.5%	0.1%	-0.8%	0.0%		
60	0.0%	0.0%	0.0%	0.0%	0.4%	-0.3%	-1.0%	0.0%		
90	0.0%	0.0%	0.0%	0.0%	0.7%	-0.3%	-1.9%	0.0%		

Table D.18 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 46 ft vs. Baseline at 40 ft (Acosta Bridge Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (ppt) greate	r than							
Moving Average Period (day)	3	5	10	15	20	25	30	35		
1	4.0%	4.7%	4.8%	4.1%	2.2%	0.3%	0.0%	0.0%		
7	3.9%	4.0%	5.9%	5.4%	1.9%	0.2%	0.0%	0.0%		
30	3.1%	6.3%	6.1%	5.0%	2.4%	0.0%	0.0%	0.0%		
60	4.2%	3.1%	7.7%	4.3%	2.3%	0.0%	0.0%	0.0%		
90	4.7%	3.1%	5.0%	4.0%	1.2%	0.0%	0.0%	0.0%		
Layer 5	Salinity (ppt) greate	r than							
Moving Average Period (day)	3	5	10	15	20	25	30	35		
1	3.4%	3.9%	5.9%	4.3%	2.6%	0.5%	0.0%	0.0%		
7	2.6%	4.8%	5.0%	4.2%	2.5%	0.3%	0.0%	0.0%		
30	2.2%	5.7%	5.5%	4.0%	3.1%	0.0%	0.0%	0.0%		
60	1.8%	4.5%	7.5%	4.8%	2.6%	0.0%	0.0%	0.0%		
90	1.2%	2.7%	8.9%	3.1%	5.0%	0.0%	0.0%	0.0%		
Layer 4 Salinity (ppt) greater than										
Moving Average Period (day)	3	5	10	15	20	25	30	35		
1	3.1%	3.9%	6.0%	5.7%	2.6%	0.5%	0.0%	0.0%		
7	2.2%	4.5%	5.7%	3.6%	4.0%	0.3%	0.0%	0.0%		
30	1.6%	5.0%	4.0%	3.5%	3.3%	0.0%	0.0%	0.0%		
60	2.6%	3.3%	5.2%	4.8%	2.4%	0.0%	0.0%	0.0%		
90	0.9%	3.1%	9.3%	3.8%	5.1%	0.0%	0.0%	0.0%		
Layer 3	Layer 3 Salinity (ppt) greater than									
Moving Average Period (day)	3	5	10	15	20	25	30	35		
1	2.7%	4.1%	5.8%	5.3%	3.3%	0.6%	0.0%	0.0%		
7	2.2%	4.1%	5.4%	3.5%	3.5%	0.3%	0.0%	0.0%		
30	1.4%	3.6%	3.3%	3.6%	3.6%	0.0%	0.0%	0.0%		
60	2.4%	3.7%	5.6%	4.6%	4.0%	0.0%	0.0%	0.0%		
90	1.0%	3.6%	9.3%	4.8%	4.7%	0.0%	0.0%	0.0%		
Layer 2	Salinity (ppt) greate	r than	T	T		1			
Moving Average Period (day)	3	5	10	15	20	25	30	35		
1	2.4%	3.9%	5.4%	4.7%	3.3%	0.5%	0.0%	0.0%		
7	2.3%	4.0%	5.9%	4.2%	4.2%	0.5%	0.0%	0.0%		
30	1.5%	3.0%	3.6%	3.6%	3.9%	0.0%	0.0%	0.0%		
60	1.8%	4.0%	4.9%	3.9%	6.5%	0.0%	0.0%	0.0%		
90	1.2%	4.7%	6.3%	7.4%	3.3%	0.0%	0.0%	0.0%		
Layer 1 (Bottom)		opt) greate								
Moving Average Period (day)	3	5	10	15	20	25	30	35		
1	2.5%	3.9%	5.7%	4.5%	3.1%	0.4%	0.0%	0.0%		
7	2.2%	3.9%	6.2%	4.4%	4.1%	0.4%	0.0%	0.0%		
30	1.5%	2.8%	3.4%	4.2%	3.4%	0.0%	0.0%	0.0%		
60	1.5%	4.0%	5.4%	3.8%	7.3%	0.0%	0.0%	0.0%		
90	1.1%	4.7%	4.7%	7.2%	3.5%	0.0%	0.0%	0.0%		

Table D.19 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 46 ft vs. Baseline at 40 ft (SAVPTLV Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (ppt) greate	r than						
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20	
1	0.1%	0.9%	1.4%	2.2%	3.3%	1.9%	1.3%	0.3%	
7	0.3%	0.9%	1.6%	1.8%	2.7%	1.9%	0.8%	0.2%	
30	0.0%	0.5%	1.0%	1.7%	2.3%	2.5%	1.7%	0.0%	
60	0.0%	0.1%	0.4%	1.1%	4.3%	1.8%	1.0%	0.0%	
90	0.0%	0.0%	0.2%	2.5%	8.1%	1.6%	2.6%	0.0%	
Layer 5	Salinity (ppt) greate	r than						
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20	
1	0.1%	0.8%	1.5%	2.1%	2.7%	2.2%	1.7%	0.3%	
7	0.3%	1.0%	1.7%	2.6%	1.8%	1.7%	1.6%	0.3%	
30	0.0%	0.2%	0.7%	2.7%	1.8%	2.1%	2.3%	0.0%	
60	0.0%	0.2%	0.2%	1.0%	3.5%	2.9%	1.6%	0.0%	
90	0.0%	0.0%	0.3%	1.8%	5.3%	1.4%	3.7%	0.0%	
Layer 4	Salinity (ppt) greate	r than						
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20	
1	0.1%	1.0%	1.6%	2.5%	2.9%	2.0%	1.4%	0.4%	
7	0.3%	1.0%	1.5%	2.2%	2.7%	1.9%	1.8%	0.1%	
30	0.0%	0.1%	0.4%	2.7%	1.3%	1.9%	1.6%	0.0%	
60	0.0%	0.2%	0.2%	1.1%	3.0%	2.8%	1.6%	0.0%	
90	0.0%	0.0%	0.3%	0.9%	4.7%	1.3%	2.9%	0.0%	
Layer 3	Salinity (ppt) greate	r than						
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20	
1	0.1%	1.0%	1.6%	2.6%	2.6%	2.5%	1.2%	0.3%	
7	0.3%	0.9%	1.7%	2.2%	3.1%	2.1%	1.3%	0.1%	
30	0.0%	0.1%	0.4%	2.9%	1.6%	1.7%	1.5%	0.0%	
60	0.0%	0.3%	0.3%	1.3%	2.7%	2.2%	1.3%	0.0%	
90	0.0%	0.0%	0.2%	0.8%	5.1%	1.7%	2.4%	0.0%	
Layer 2	Salinity (ppt) greate	r than						
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20	
1	0.1%	0.9%	1.6%	2.6%	2.7%	2.6%	1.5%	0.4%	
7	0.2%	0.9%	2.0%	2.2%	3.1%	2.1%	1.2%	0.2%	
30	0.0%	0.1%	0.3%	2.7%	1.7%	1.8%	1.7%	0.0%	
60	0.0%	0.3%	0.5%	1.5%	2.7%	1.8%	1.3%	0.0%	
90	0.0%	0.0%	0.2%	0.8%	5.0%	1.8%	1.7%	0.0%	
Layer 1 (Bottom)	Layer 1 (Bottom) Salinity (ppt) greater than								
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20	
1	0.1%	0.9%	1.6%	2.5%	2.8%	2.4%	1.6%	0.5%	
7	0.2%	0.9%	2.1%	2.1%	3.1%	2.0%	1.2%	0.2%	
30	0.0%	0.1%	0.3%	2.9%	1.6%	1.8%	1.6%	0.1%	
60	0.0%	0.3%	0.8%	1.6%	2.7%	1.5%	1.3%	0.0%	
90	0.0%	0.0%	0.2%	0.8%	4.9%	1.8%	1.6%	0.0%	

Table D.20 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 46 ft vs. Baseline at 40 ft (JAXSJR40 Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.4%	2.0%	1.5%	2.8%	2.6%	2.9%	0.9%	0.2%
7	0.2%	1.5%	2.1%	2.9%	2.9%	2.4%	1.6%	0.1%
30	0.4%	0.4%	1.7%	2.0%	2.6%	1.6%	1.5%	0.0%
60	0.0%	0.4%	3.1%	3.2%	2.5%	1.3%	1.0%	0.0%
90	0.0%	0.5%	2.2%	4.0%	2.1%	2.9%	0.9%	0.0%
Layer 5	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.4%	2.1%	1.5%	3.1%	2.5%	1.9%	0.8%	0.3%
7	0.3%	1.5%	1.8%	3.7%	2.5%	2.6%	1.4%	0.1%
30	0.4%	0.6%	1.1%	1.7%	6.2%	1.8%	0.9%	0.0%
60	0.0%	0.4%	2.4%	2.6%	3.5%	2.4%	1.2%	0.0%
90	0.0%	0.8%	3.2%	2.4%	2.6%	2.2%	2.3%	0.0%
Layer 4	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.4%	2.2%	1.6%	2.9%	2.1%	1.6%	1.5%	0.4%
7	0.3%	1.4%	1.6%	2.9%	3.0%	1.9%	1.6%	0.2%
30	0.1%	0.8%	1.6%	1.5%	4.3%	1.0%	1.3%	0.0%
60	0.0%	0.5%	1.5%	2.4%	4.8%	1.3%	1.4%	0.0%
90	0.0%	1.6%	2.6%	2.3%	3.1%	1.6%	1.5%	0.0%
Layer 3	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.4%	2.3%	1.7%	2.7%	2.5%	2.0%	1.2%	0.2%
7	0.3%	1.3%	1.5%	2.7%	2.5%	1.0%	1.2%	0.2%
30	0.2%	1.0%	1.8%	1.4%	3.9%	1.6%	1.0%	0.0%
60	0.0%	0.5%	0.7%	2.7%	4.9%	1.3%	0.8%	0.0%
90	0.0%	1.6%	2.1%	1.7%	4.2%	1.2%	1.7%	0.0%
Layer 2	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.4%	2.3%	1.8%	2.5%	2.5%	1.7%	1.3%	0.3%
7	0.3%	1.4%	1.4%	2.6%	2.4%	1.5%	1.2%	0.1%
30	0.2%	0.9%	1.6%	1.4%	2.3%	2.2%	1.4%	0.0%
60	0.0%	0.3%	0.4%	2.3%	4.5%	3.1%	1.2%	0.0%
90	0.0%	1.1%	1.9%	1.6%	5.7%	1.1%	2.9%	0.0%
Layer 1 (Bottom)	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.4%	2.3%	2.0%	2.1%	2.7%	1.9%	1.1%	0.3%
7	0.3%	1.2%	1.6%	2.7%	2.1%	1.6%	1.3%	0.1%
30	0.2%	0.9%	1.6%	1.3%	1.9%	1.7%	1.0%	0.1%
60	0.0%	0.1%	0.6%	1.8%	3.3%	2.0%	1.4%	0.0%
90	0.0%	0.5%	1.5%	2.6%	6.8%	1.1%	2.3%	0.0%

Table D.21 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 46 ft vs. Baseline at 40 ft (SAVBOLS Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.6%	1.3%	2.1%	2.0%	1.8%	0.5%	0.1%
7	0.1%	2.3%	1.8%	2.4%	2.0%	2.0%	0.4%	0.0%
30	0.0%	0.7%	2.1%	3.9%	2.5%	1.6%	0.8%	0.0%
60	0.2%	0.3%	0.6%	4.5%	1.6%	1.9%	0.0%	0.0%
90	0.0%	0.8%	0.6%	4.2%	2.6%	1.1%	0.0%	0.0%
Layer 5	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.6%	1.2%	2.1%	1.8%	2.0%	0.5%	0.0%
7	0.1%	2.3%	1.6%	2.5%	1.8%	2.0%	0.4%	0.0%
30	0.0%	0.7%	2.1%	3.8%	2.5%	1.8%	0.8%	0.0%
60	0.2%	0.2%	0.6%	4.2%	1.6%	1.7%	0.0%	0.0%
90	0.0%	1.3%	0.5%	4.4%	2.6%	1.5%	0.0%	0.0%
Layer 4	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.6%	1.2%	2.0%	1.8%	2.0%	0.5%	0.0%
7	0.2%	2.2%	1.7%	2.7%	2.1%	1.7%	0.5%	0.0%
30	0.0%	0.6%	2.0%	3.3%	2.1%	2.0%	0.5%	0.0%
60	0.2%	0.1%	0.8%	3.6%	1.5%	1.5%	0.0%	0.0%
90	0.0%	1.4%	0.5%	5.8%	2.7%	2.0%	0.0%	0.0%
Layer 3	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.6%	1.1%	2.1%	1.7%	2.4%	0.5%	0.0%
7	0.2%	2.2%	1.7%	2.7%	2.1%	1.7%	0.5%	0.0%
30	0.0%	0.6%	2.2%	3.0%	2.1%	2.0%	0.4%	0.0%
60	0.2%	0.1%	0.8%	3.4%	1.4%	1.5%	0.2%	0.0%
90	0.0%	1.4%	0.5%	5.2%	2.6%	2.0%	0.0%	0.0%
Layer 2	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.7%	1.1%	2.2%	1.6%	2.3%	0.4%	0.0%
7	0.2%	2.1%	1.7%	2.7%	1.8%	1.9%	0.5%	0.0%
30	0.0%	0.6%	2.6%	2.9%	2.0%	1.8%	0.4%	0.0%
60	0.2%	0.1%	0.6%	3.1%	1.5%	1.5%	0.5%	0.0%
90	0.0%	1.5%	0.6%	5.3%	2.2%	2.1%	0.0%	0.0%
Layer 1 (Bottom)	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.7%	1.0%	2.1%	1.5%	2.0%	0.2%	0.1%
7	0.2%	2.1%	1.6%	2.5%	1.8%	1.8%	0.5%	0.0%
30	0.0%	0.6%	2.3%	2.8%	1.8%	1.6%	0.4%	0.0%
60	0.1%	0.1%	0.7%	3.3%	1.7%	1.6%	0.6%	0.0%
90	0.0%	1.5%	0.5%	5.2%	1.9%	2.0%	0.0%	0.0%

Table D.22 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 46 ft vs. Baseline at 40 ft (Buckman Bridge Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (opt) greate	r than							
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.1%	1.8%	3.5%	3.3%	3.1%	1.5%	0.3%	0.0%		
7	0.0%	1.8%	3.1%	3.1%	3.3%	1.8%	0.4%	0.0%		
30	0.1%	2.8%	2.0%	3.2%	2.4%	1.8%	0.0%	0.0%		
60	0.4%	1.6%	3.3%	2.7%	2.4%	2.3%	0.0%	0.0%		
90	0.3%	0.5%	2.6%	4.4%	2.1%	2.3%	0.0%	0.0%		
Layer 5	Salinity (opt) greate	r than							
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.1%	1.7%	3.7%	3.5%	2.4%	2.6%	0.5%	0.0%		
7	0.0%	1.8%	3.4%	3.7%	2.4%	2.6%	0.3%	0.0%		
30	0.1%	2.7%	2.1%	3.5%	2.4%	2.2%	0.3%	0.0%		
60	0.4%	1.6%	2.0%	4.8%	3.1%	2.7%	0.0%	0.0%		
90	0.3%	0.4%	3.2%	3.2%	2.1%	3.0%	0.0%	0.0%		
Layer 4	Layer 4 Salinity (ppt) greater than									
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.1%	1.7%	3.5%	3.5%	2.6%	2.7%	0.7%	0.1%		
7	0.0%	1.6%	3.5%	3.3%	2.8%	2.4%	0.7%	0.0%		
30	0.1%	2.8%	1.7%	2.6%	2.2%	2.7%	0.9%	0.0%		
60	0.4%	1.5%	1.2%	5.2%	2.4%	4.3%	0.0%	0.0%		
90	0.2%	0.6%	3.7%	3.2%	3.3%	2.9%	0.0%	0.0%		
Layer 3	Salinity (ppt) greate	r than							
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.1%	1.7%	3.3%	3.3%	2.3%	3.0%	1.3%	0.0%		
7	0.0%	1.6%	3.3%	3.6%	2.5%	2.8%	1.6%	0.1%		
30	0.1%	2.9%	1.0%	4.3%	3.1%	3.7%	0.6%	0.0%		
60	0.4%	2.2%	1.3%	5.2%	2.9%	2.4%	1.4%	0.0%		
90	0.2%	0.7%	3.3%	4.1%	5.2%	3.2%	0.0%	0.0%		
Layer 2	Salinity (opt) greate	r than		T		1	1		
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.1%	1.8%	3.3%	3.4%	2.6%	2.8%	1.2%	0.1%		
7	0.0%	1.6%	3.4%	3.9%	2.6%	2.6%	1.1%	0.1%		
30	0.1%	3.0%	1.0%	5.6%	4.0%	4.1%	1.4%	0.0%		
60	0.4%	2.5%	2.0%	4.7%	2.7%	2.1%	1.6%	0.0%		
90	0.2%	0.9%	1.7%	5.9%	4.2%	2.0%	0.0%	0.0%		
Layer 1 (Bottom) Salinity (ppt) greater than										
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.1%	1.8%	3.3%	3.3%	2.3%	2.4%	1.0%	0.4%		
7	0.0%	1.6%	3.3%	4.2%	2.6%	3.3%	1.1%	0.1%		
30	0.1%	2.9%	0.9%	5.8%	3.6%	3.6%	1.6%	0.0%		
60	0.4%	2.3%	1.8%	3.7%	2.4%	2.1%	1.2%	0.0%		
90	0.3%	0.9%	1.0%	5.7%	4.2%	2.4%	1.0%	0.0%		

Table D.23 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 46 ft vs. Baseline at 40 ft (SJRHBP Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (ı	opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	1.6%	0.9%	0.3%	1.0%	0.7%	0.1%
7	0.0%	0.0%	1.0%	1.1%	0.2%	0.6%	0.8%	0.1%
30	0.0%	0.0%	2.1%	0.5%	0.5%	0.6%	0.5%	0.0%
60	0.0%	0.1%	0.7%	1.0%	0.9%	0.8%	0.4%	0.0%
90	0.0%	0.4%	1.6%	0.4%	0.5%	0.2%	0.5%	0.0%
Layer 5	Salinity (opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	1.7%	0.8%	0.3%	0.4%	0.5%	0.1%
7	0.0%	0.1%	0.9%	0.9%	0.6%	0.5%	0.6%	0.2%
30	0.0%	0.0%	1.1%	0.6%	0.3%	0.2%	0.4%	0.0%
60	0.0%	0.1%	0.6%	0.6%	0.5%	0.6%	1.6%	0.0%
90	0.0%	0.4%	1.5%	2.1%	0.4%	0.9%	0.5%	0.0%
Layer 4	Salinity (opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	1.8%	0.7%	0.4%	0.4%	0.6%	0.0%
7	0.0%	0.1%	1.0%	0.9%	0.7%	0.2%	0.5%	0.1%
30	0.0%	0.0%	1.1%	0.6%	0.4%	0.3%	0.3%	0.2%
60	0.0%	0.1%	1.6%	0.4%	0.5%	0.9%	0.8%	0.0%
90	0.0%	0.4%	1.9%	0.6%	0.5%	0.8%	0.4%	0.0%
Layer 3	Salinity (opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	1.8%	0.6%	0.3%	0.3%	0.5%	0.2%
7	0.0%	0.0%	0.9%	0.7%	0.4%	0.3%	0.4%	0.3%
30	0.0%	0.0%	2.1%	0.8%	0.5%	0.3%	0.2%	0.1%
60	0.0%	0.1%	2.7%	0.5%	0.4%	0.6%	0.4%	0.0%
90	0.0%	0.4%	2.1%	0.4%	0.4%	0.5%	0.4%	0.0%
Layer 2	Salinity (opt) greate	r than				T	
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	1.7%	0.6%	0.3%	0.3%	0.6%	0.2%
7	0.0%	0.0%	0.9%	0.7%	0.4%	0.2%	0.2%	0.2%
30	0.0%	0.0%	1.1%	0.5%	0.5%	0.2%	0.3%	0.1%
60	0.0%	0.1%	3.2%	0.6%	0.5%	0.6%	0.2%	0.0%
90	0.0%	0.4%	2.1%	0.4%	0.3%	1.1%	0.4%	0.0%
Layer 1 (Bottom)	1	opt) greate						
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	1.7%	0.6%	0.3%	0.2%	0.6%	0.3%
7	0.0%	0.0%	0.9%	0.7%	0.4%	0.2%	0.1%	0.3%
30	0.0%	0.0%	1.1%	0.6%	0.5%	0.3%	0.5%	0.2%
60	0.0%	0.1%	3.2%	0.6%	0.4%	0.5%	0.2%	0.5%
90	0.0%	0.4%	2.1%	0.5%	0.3%	1.0%	0.4%	0.0%

Table D.24 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 46 ft vs. Baseline at 40 ft (Shands Bridge Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (ppt) greate	r than							
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10		
1	0.0%	0.0%	0.5%	1.4%	0.9%	0.3%	0.4%	0.0%		
7	0.0%	0.0%	0.5%	1.6%	0.8%	0.7%	0.2%	0.0%		
30	0.0%	0.0%	0.4%	1.4%	1.0%	0.7%	0.1%	0.0%		
60	0.0%	0.0%	0.7%	1.3%	0.9%	1.0%	0.0%	0.0%		
90	0.0%	0.0%	1.0%	0.9%	1.3%	2.1%	0.0%	0.0%		
Layer 5	Salinity (ppt) greate	r than							
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10		
1	0.0%	0.0%	0.5%	1.3%	0.6%	0.8%	0.4%	0.0%		
7	0.0%	0.0%	0.5%	1.8%	0.7%	0.7%	0.4%	0.0%		
30	0.0%	0.0%	0.4%	1.6%	1.1%	0.6%	0.5%	0.0%		
60	0.0%	0.0%	0.7%	1.2%	0.8%	1.4%	0.0%	0.0%		
90	0.0%	0.0%	0.9%	0.8%	1.2%	0.7%	0.0%	0.0%		
Layer 4	Layer 4 Salinity (ppt) greater than									
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10		
1	0.0%	0.0%	0.5%	1.1%	0.8%	0.7%	0.3%	0.0%		
7	0.0%	0.0%	0.5%	1.7%	0.7%	0.7%	0.4%	0.0%		
30	0.0%	0.0%	0.4%	2.3%	1.4%	0.6%	0.5%	0.0%		
60	0.0%	0.0%	0.8%	1.0%	0.8%	1.4%	0.0%	0.0%		
90	0.0%	0.0%	0.5%	0.9%	1.1%	0.7%	0.0%	0.0%		
Layer 3	Salinity (ppt) greate	r than							
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10		
1	0.0%	0.0%	0.5%	1.3%	0.7%	0.7%	0.5%	0.0%		
7	0.0%	0.0%	0.5%	1.6%	0.5%	0.4%	0.5%	0.0%		
30	0.0%	0.0%	0.4%	2.7%	1.4%	0.5%	0.5%	0.0%		
60	0.0%	0.0%	0.8%	1.2%	0.7%	1.1%	0.2%	0.0%		
90	0.0%	0.0%	0.6%	0.8%	0.8%	0.7%	0.0%	0.0%		
Layer 2	Salinity (ppt) greate	r than	,			1			
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10		
1	0.0%	0.0%	0.5%	1.3%	0.8%	0.8%	0.3%	0.0%		
7	0.0%	0.0%	0.5%	1.6%	0.6%	0.3%	0.7%	0.0%		
30	0.0%	0.0%	0.4%	2.6%	1.6%	0.6%	0.4%	0.0%		
60	0.0%	0.0%	0.8%	1.4%	0.8%	1.0%	1.2%	0.0%		
90	0.0%	0.0%	0.6%	0.9%	1.2%	0.8%	0.0%	0.0%		
Layer 1 (Bottom)	1	opt) greate								
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10		
1	0.0%	0.0%	0.5%	1.2%	1.0%	0.7%	0.3%	0.0%		
7	0.0%	0.0%	0.5%	1.7%	0.7%	0.2%	0.7%	0.0%		
30	0.0%	0.0%	0.3%	2.8%	1.5%	0.8%	0.5%	0.0%		
60	0.0%	0.0%	0.7%	1.4%	1.3%	1.0%	0.5%	0.0%		
90	0.0%	0.0%	0.5%	1.0%	1.6%	0.7%	0.0%	0.0%		

Table D.25 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 50 ft vs. Baseline at 40 ft (Dames Point Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (opt) greate	r than						
Moving Average Period (day)	3	5	10	15	20	25	30	35	
1	0.8%	0.6%	3.1%	5.8%	6.7%	4.7%	0.3%	0.0%	
7	0.4%	0.8%	2.6%	5.9%	6.6%	5.6%	0.2%	0.0%	
30	0.0%	0.5%	1.8%	4.6%	8.6%	7.1%	0.2%	0.0%	
60	0.0%	0.0%	2.7%	3.8%	8.7%	4.2%	0.0%	0.0%	
90	0.0%	0.0%	1.7%	2.3%	5.6%	4.0%	0.0%	0.0%	
Layer 5	Salinity (opt) greate	r than						
Moving Average Period (day)	3	5	10	15	20	25	30	35	
1	0.2%	0.8%	1.3%	2.1%	3.1%	1.1%	-0.5%	0.0%	
7	0.0%	0.5%	0.9%	2.7%	2.3%	1.6%	0.0%	0.0%	
30	0.0%	0.0%	1.2%	1.7%	1.4%	1.6%	0.6%	0.0%	
60	0.0%	0.0%	1.0%	2.0%	2.4%	1.8%	1.2%	0.0%	
90	0.0%	0.0%	0.0%	1.9%	2.2%	2.1%	0.0%	0.0%	
Layer 4	Salinity (opt) greate	r than						
Moving Average Period (day)	3	5	10	15	20	25	30	35	
1	0.0%	0.2%	0.5%	1.1%	1.4%	0.2%	-1.0%	0.0%	
7	0.0%	0.0%	0.7%	1.0%	1.8%	0.1%	-0.7%	0.0%	
30	0.0%	0.0%	0.6%	1.0%	1.3%	0.2%	0.0%	0.0%	
60	0.0%	0.0%	0.0%	1.8%	1.4%	0.5%	0.1%	0.0%	
90	0.0%	0.0%	0.0%	0.9%	0.6%	0.9%	1.0%	0.0%	
Layer 3 Salinity (ppt) greater than									
Moving Average Period (day)	3	5	10	15	20	25	30	35	
1	0.0%	0.0%	0.5%	0.7%	0.5%	-0.3%	-1.3%	0.0%	
7	0.0%	0.0%	0.3%	0.4%	0.8%	-0.4%	-1.5%	0.0%	
30	0.0%	0.0%	0.0%	0.5%	0.4%	-1.0%	-0.6%	0.0%	
60	0.0%	0.0%	0.0%	0.7%	0.4%	-0.4%	-0.8%	0.0%	
90	0.0%	0.0%	0.0%	0.0%	0.1%	-4.0%	-1.4%	0.0%	
Layer 2	Salinity (opt) greate	r than						
Moving Average Period (day)	3	5	10	15	20	25	30	35	
1	0.0%	0.0%	0.5%	0.4%	0.5%	-1.1%	-1.1%	0.0%	
7	0.0%	0.0%	0.3%	0.5%	0.2%	-1.1%	-1.3%	0.0%	
30	0.0%	0.0%	0.0%	0.3%	0.3%	-1.9%	-0.6%	0.0%	
60	0.0%	0.0%	0.0%	0.0%	0.9%	-0.5%	-0.6%	0.0%	
90	0.0%	0.0%	0.0%	0.0%	0.3%	-1.6%	-0.7%	0.0%	
Layer 1 (Bottom)	Salinity (opt) greate	r than						
Moving Average Period (day)	3	5	10	15	20	25	30	35	
1	0.0%	0.0%	0.3%	0.4%	0.4%	-1.4%	-3.8%	0.0%	
7	0.0%	0.0%	0.0%	0.4%	0.1%	-1.2%	-3.6%	0.0%	
30	0.0%	0.0%	0.0%	0.1%	0.4%	-1.5%	-2.1%	0.0%	
60	0.0%	0.0%	0.0%	0.0%	0.3%	-1.3%	-2.0%	0.0%	
90	0.0%	0.0%	0.0%	0.0%	0.7%	-0.8%	-3.6%	0.0%	

Table D.26 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 50 ft vs. Baseline at 40 ft (Acosta Bridge Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (ppt) great	er than						
Moving Average Period (day)	3	5	10	15	20	25	30	35	
1	4.4%	5.8%	5.6%	5.2%	2.6%	0.5%	0.0%	0.0%	
7	4.6%	5.0%	7.6%	6.2%	2.9%	0.2%	0.0%	0.0%	
30	3.3%	7.2%	8.0%	5.8%	3.4%	0.0%	0.0%	0.0%	
60	4.4%	4.0%	8.9%	5.5%	2.6%	0.0%	0.0%	0.0%	
90	5.2%	3.7%	5.8%	5.5%	1.6%	0.0%	0.0%	0.0%	
Layer 5	Salinity (ppt) great	er than						
Moving Average Period (day)	3	5	10	15	20	25	30	35	
1	4.1%	4.7%	7.4%	5.6%	3.1%	0.7%	0.0%	0.0%	
7	3.1%	5.9%	6.3%	5.3%	3.5%	0.3%	0.0%	0.0%	
30	2.5%	6.5%	6.5%	4.8%	3.7%	0.0%	0.0%	0.0%	
60	2.5%	4.9%	8.4%	5.7%	3.1%	0.0%	0.0%	0.0%	
90	1.4%	3.6%	12.9%	3.9%	6.5%	0.0%	0.0%	0.0%	
Layer 4	Salinity (ppt) great	er than						
Moving Average Period (day)	3	5	10	15	20	25	30	35	
1	3.8%	5.2%	7.2%	6.8%	3.6%	0.8%	0.0%	0.0%	
7	2.8%	5.1%	6.9%	4.6%	4.6%	0.4%	0.0%	0.0%	
30	2.0%	5.3%	4.9%	4.2%	4.4%	0.0%	0.0%	0.0%	
60	2.8%	4.0%	6.8%	5.4%	3.4%	0.0%	0.0%	0.0%	
90	1.3%	4.2%	12.7%	5.2%	6.1%	0.0%	0.0%	0.0%	
Layer 3	Salinity (ppt) great	er than						
Moving Average Period (day)	3	5	10	15	20	25	30	35	
1	3.4%	4.7%	7.2%	6.3%	3.9%	0.7%	0.0%	0.0%	
7	2.7%	4.9%	7.1%	4.5%	4.7%	0.5%	0.0%	0.0%	
30	1.8%	4.1%	4.6%	4.6%	4.2%	0.0%	0.0%	0.0%	
60	2.5%	4.7%	6.8%	5.6%	6.5%	0.0%	0.0%	0.0%	
90	1.4%	5.2%	10.3%	7.1%	5.3%	0.0%	0.0%	0.0%	
Layer 2	Salinity (ppt) great	er than	1	T		1	T	
Moving Average Period (day)	3	5	10	15	20	25	30	35	
1	3.1%	4.7%	7.3%	5.8%	4.2%	0.6%	0.0%	0.0%	
7	2.7%	4.6%	7.8%	5.3%	4.7%	0.5%	0.0%	0.0%	
30	1.8%	3.5%	4.7%	4.9%	4.9%	0.0%	0.0%	0.0%	
60	1.9%	4.7%	7.4%	4.8%	7.8%	0.0%	0.0%	0.0%	
90	1.8%	5.3%	7.1%	8.5%	4.5%	0.0%	0.0%	0.0%	
Layer 1 (Bottom) Salinity (ppt) greater than									
Moving Average Period (day)	3	5	10	15	20	25	30	35	
1	3.1%	4.7%	7.3%	5.6%	3.9%	0.7%	0.0%	0.0%	
7	2.5%	4.5%	7.9%	5.8%	5.1%	0.5%	0.0%	0.0%	
30	1.8%	3.3%	4.3%	5.7%	4.3%	0.0%	0.0%	0.0%	
60	1.6%	4.7%	7.8%	4.7%	8.2%	0.0%	0.0%	0.0%	
90	2.1%	4.9%	5.5%	8.4%	5.0%	0.0%	0.0%	0.0%	

Table D.27 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 50 ft vs. Baseline at 40 ft (SAVPTLV Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.2%	2.1%	3.1%	4.4%	2.6%	2.0%	0.4%
7	0.4%	1.2%	2.3%	3.0%	3.2%	2.7%	1.6%	0.3%
30	0.0%	0.5%	1.1%	3.0%	3.0%	3.1%	2.6%	0.0%
60	0.0%	0.2%	0.5%	1.5%	5.7%	2.8%	2.1%	0.0%
90	0.0%	0.0%	0.4%	2.8%	9.6%	2.2%	4.2%	0.0%
Layer 5	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.2%	2.1%	3.5%	4.2%	3.2%	2.4%	0.4%
7	0.3%	1.1%	2.4%	3.4%	3.2%	2.4%	2.3%	0.4%
30	0.0%	0.2%	0.8%	3.6%	2.1%	2.6%	2.7%	0.0%
60	0.0%	0.3%	0.3%	1.6%	4.7%	4.1%	2.0%	0.0%
90	0.0%	0.0%	0.4%	2.1%	7.5%	2.0%	4.4%	0.0%
Layer 4	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.4%	2.2%	3.6%	4.2%	3.1%	2.3%	0.6%
7	0.3%	1.0%	2.5%	3.3%	4.1%	2.8%	2.1%	0.3%
30	0.0%	0.2%	0.6%	4.2%	2.3%	2.6%	2.6%	0.1%
60	0.0%	0.3%	0.6%	2.0%	4.0%	3.5%	2.1%	0.0%
90	0.0%	0.0%	0.3%	1.2%	6.5%	2.3%	3.6%	0.0%
Layer 3	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.4%	2.2%	3.7%	4.1%	3.4%	2.2%	0.6%
7	0.3%	1.0%	2.7%	2.9%	4.6%	2.9%	1.9%	0.3%
30	0.0%	0.1%	0.6%	4.1%	2.3%	2.3%	2.6%	0.3%
60	0.0%	0.4%	1.5%	2.2%	3.7%	2.8%	2.0%	0.0%
90	0.0%	0.0%	0.3%	1.2%	6.8%	2.5%	3.0%	0.0%
Layer 2	Salinity (opt) greate	r than		T		1	T
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.3%	2.3%	3.5%	4.2%	3.3%	2.5%	0.6%
7	0.3%	0.9%	2.7%	3.1%	4.4%	2.9%	2.0%	0.2%
30	0.0%	0.1%	0.5%	4.1%	2.5%	2.2%	2.6%	0.4%
60	0.0%	0.4%	1.5%	2.4%	3.7%	2.3%	2.6%	0.0%
90	0.0%	0.0%	0.3%	1.2%	7.1%	2.6%	2.1%	0.0%
Layer 1 (Bottom)		opt) greate						
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	1.3%	2.3%	3.4%	4.2%	3.2%	2.5%	0.6%
7	0.3%	0.9%	2.7%	3.1%	4.2%	2.8%	2.0%	0.3%
30	0.0%	0.1%	0.5%	4.2%	2.4%	2.3%	2.5%	0.4%
60	0.0%	0.4%	1.7%	2.3%	4.0%	2.1%	2.7%	0.0%
90	0.0%	0.0%	0.3%	1.3%	6.8%	2.7%	2.0%	0.0%

Table D.28 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 50 ft vs. Baseline at 40 ft (JAXSJR40 Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (opt) greate	r than							
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.4%	2.7%	2.3%	4.1%	3.6%	3.7%	1.6%	0.2%		
7	0.4%	2.1%	2.7%	4.6%	3.9%	3.4%	2.6%	0.2%		
30	0.5%	1.0%	2.3%	2.9%	4.9%	2.3%	2.0%	0.0%		
60	0.0%	0.7%	3.8%	4.5%	4.1%	2.3%	1.4%	0.0%		
90	0.0%	1.0%	4.1%	4.9%	2.7%	4.0%	1.5%	0.0%		
Layer 5	Salinity (opt) greate	r than							
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.4%	2.8%	2.4%	4.4%	3.4%	2.5%	1.6%	0.4%		
7	0.4%	2.0%	2.4%	4.7%	3.9%	3.3%	1.8%	0.2%		
30	0.4%	1.0%	2.1%	2.4%	8.0%	2.1%	1.4%	0.0%		
60	0.0%	0.5%	2.6%	3.6%	5.7%	3.3%	2.2%	0.0%		
90	0.0%	1.6%	3.8%	3.4%	4.3%	2.8%	2.7%	0.0%		
Layer 4	Layer 4 Salinity (ppt) greater than									
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.4%	2.6%	2.5%	3.7%	3.3%	2.4%	2.4%	0.5%		
7	0.4%	1.8%	2.4%	4.0%	4.2%	2.3%	2.2%	0.3%		
30	0.2%	1.1%	2.1%	2.1%	6.3%	2.1%	2.2%	0.0%		
60	0.0%	0.5%	1.6%	3.8%	6.5%	1.9%	1.8%	0.0%		
90	0.0%	1.6%	3.7%	3.0%	4.7%	2.2%	2.2%	0.0%		
Layer 3	Salinity (opt) greate	r than							
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.4%	2.6%	2.6%	3.2%	3.4%	2.7%	2.0%	0.4%		
7	0.4%	1.6%	2.2%	3.7%	3.4%	2.0%	1.9%	0.2%		
30	0.2%	1.2%	2.3%	2.1%	4.7%	2.9%	1.9%	0.0%		
60	0.0%	0.5%	1.0%	3.4%	6.7%	2.7%	1.5%	0.0%		
90	0.0%	1.6%	2.8%	2.6%	6.8%	1.8%	3.6%	0.0%		
Layer 2	Salinity (opt) greate	r than				T			
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.4%	2.6%	2.6%	3.1%	3.7%	2.8%	2.1%	0.5%		
7	0.4%	1.7%	2.4%	3.7%	3.2%	2.2%	1.8%	0.3%		
30	0.2%	1.3%	2.3%	1.9%	3.1%	2.9%	1.9%	0.0%		
60	0.0%	0.4%	1.0%	3.0%	5.6%	3.9%	2.1%	0.0%		
90	0.0%	1.1%	2.0%	3.0%	9.3%	1.6%	3.9%	0.0%		
Layer 1 (Bottom)	i	opt) greate	r than							
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.4%	2.6%	2.7%	3.1%	4.1%	2.7%	1.7%	0.4%		
7	0.4%	1.5%	2.6%	3.6%	2.8%	2.1%	1.8%	0.2%		
30	0.2%	1.3%	2.3%	1.9%	2.6%	2.1%	1.9%	0.3%		
60	0.0%	0.2%	1.0%	2.2%	4.5%	2.6%	2.6%	0.0%		
90	0.0%	0.5%	1.6%	3.1%	8.1%	1.8%	3.1%	0.0%		

Table D.29 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 50 ft vs. Baseline at 40 ft (SAVBOLS Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (opt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	2.3%	1.7%	2.8%	2.5%	2.6%	0.8%	0.1%
7	0.4%	2.7%	2.3%	3.1%	2.8%	2.6%	0.7%	0.0%
30	0.0%	0.9%	3.3%	5.2%	3.4%	2.4%	1.0%	0.0%
60	0.2%	0.4%	1.0%	6.2%	2.2%	2.6%	0.0%	0.0%
90	0.0%	1.8%	0.8%	6.2%	3.6%	2.4%	0.0%	0.0%
Layer 5	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	2.3%	1.7%	3.0%	2.6%	2.7%	0.9%	0.0%
7	0.4%	2.8%	2.1%	3.5%	2.9%	2.6%	0.8%	0.0%
30	0.0%	0.9%	3.8%	4.9%	3.4%	2.8%	1.0%	0.0%
60	0.2%	0.2%	1.0%	5.5%	2.2%	2.4%	0.0%	0.0%
90	0.0%	1.7%	0.8%	7.7%	3.6%	2.5%	0.0%	0.0%
Layer 4	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	2.4%	1.9%	2.9%	2.4%	3.0%	0.7%	0.0%
7	0.4%	2.7%	2.1%	3.7%	3.0%	2.4%	0.7%	0.0%
30	0.0%	1.0%	4.4%	4.2%	2.8%	2.8%	0.6%	0.0%
60	0.2%	0.2%	1.0%	5.6%	2.1%	2.4%	0.4%	0.0%
90	0.0%	1.7%	0.9%	7.7%	3.5%	2.6%	0.0%	0.0%
Layer 3	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	2.4%	1.8%	3.0%	2.4%	3.3%	0.6%	0.0%
7	0.4%	2.6%	2.1%	3.6%	3.0%	2.6%	0.8%	0.0%
30	0.0%	1.0%	4.5%	3.6%	2.8%	3.0%	0.7%	0.0%
60	0.2%	0.2%	1.1%	5.0%	2.1%	2.4%	1.0%	0.0%
90	0.0%	1.6%	1.0%	7.1%	3.5%	2.7%	0.0%	0.0%
Layer 2	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	2.4%	1.8%	3.1%	2.4%	3.1%	0.5%	0.1%
7	0.4%	2.6%	2.0%	3.5%	3.1%	2.6%	0.9%	0.0%
30	0.0%	1.1%	4.5%	3.5%	2.6%	2.9%	0.8%	0.0%
60	0.2%	0.2%	1.0%	4.5%	2.6%	2.2%	1.4%	0.0%
90	0.0%	1.6%	0.9%	6.8%	3.1%	2.6%	0.0%	0.0%
Layer 1 (Bottom)	Salinity (ppt) greate	r than					
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20
1	0.2%	2.4%	1.7%	3.1%	2.5%	2.8%	0.5%	0.3%
7	0.4%	2.5%	2.0%	3.3%	3.3%	2.4%	0.7%	0.1%
30	0.0%	1.0%	4.3%	3.6%	2.4%	2.9%	1.0%	0.0%
60	0.2%	0.2%	1.0%	4.4%	2.7%	2.3%	1.4%	0.0%
90	0.0%	1.7%	1.0%	6.5%	2.7%	2.4%	0.0%	0.0%

Table D.30 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 50 ft vs. Baseline at 40 ft (Buckman Bridge Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (opt) greate	r than							
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.1%	2.4%	4.5%	4.5%	3.7%	1.9%	0.5%	0.0%		
7	0.0%	2.4%	4.1%	4.0%	3.8%	2.1%	0.4%	0.0%		
30	0.1%	3.5%	2.6%	4.7%	3.3%	2.3%	0.0%	0.0%		
60	0.4%	1.9%	3.7%	3.5%	2.7%	2.7%	0.0%	0.0%		
90	0.3%	0.9%	3.2%	5.0%	2.6%	3.4%	0.0%	0.0%		
Layer 5	Salinity (opt) greate	r than							
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.1%	2.3%	4.5%	4.5%	3.0%	3.0%	0.7%	0.0%		
7	0.0%	2.3%	4.7%	4.6%	3.1%	3.2%	0.4%	0.0%		
30	0.1%	3.5%	2.6%	4.2%	2.7%	2.6%	0.3%	0.0%		
60	0.5%	1.9%	2.3%	5.7%	3.6%	4.4%	0.0%	0.0%		
90	0.4%	0.9%	4.1%	3.8%	2.7%	3.7%	0.0%	0.0%		
Layer 4	Layer 4 Salinity (ppt) greater than									
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.1%	2.3%	4.3%	4.1%	3.1%	3.6%	1.2%	0.1%		
7	0.0%	2.1%	4.7%	4.3%	3.4%	3.1%	1.0%	0.0%		
30	0.1%	3.7%	2.1%	3.4%	2.9%	3.4%	1.0%	0.0%		
60	0.5%	2.1%	1.7%	6.3%	3.1%	4.9%	0.0%	0.0%		
90	0.3%	1.0%	4.0%	3.7%	4.7%	3.6%	0.0%	0.0%		
Layer 3	Salinity (ppt) greate	r than							
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.1%	2.3%	4.2%	4.1%	3.0%	3.8%	1.5%	0.1%		
7	0.0%	2.1%	4.7%	4.7%	3.3%	3.1%	2.0%	0.1%		
30	0.1%	3.9%	1.3%	5.5%	3.7%	4.7%	1.1%	0.0%		
60	0.5%	2.8%	2.2%	6.2%	3.4%	3.0%	1.6%	0.0%		
90	0.4%	1.1%	3.5%	5.5%	5.9%	3.6%	0.0%	0.0%		
Layer 2	Salinity (opt) greate	r than	T	T		1	1		
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.1%	2.4%	4.1%	4.4%	3.2%	3.5%	1.4%	0.3%		
7	0.0%	2.1%	4.6%	4.7%	3.0%	3.1%	1.3%	0.1%		
30	0.1%	3.9%	1.2%	7.2%	5.2%	4.5%	1.8%	0.0%		
60	0.5%	2.8%	2.2%	5.9%	2.9%	2.7%	1.9%	0.0%		
90	0.4%	1.2%	1.9%	6.8%	5.0%	2.2%	0.0%	0.0%		
Layer 1 (Bottom) Salinity (ppt) greater than										
Moving Average Period (day)	0.25	0.5	1	3	5	10	15	20		
1	0.1%	2.4%	4.1%	4.2%	3.0%	3.1%	1.1%	0.5%		
7	0.0%	2.1%	4.4%	4.6%	3.1%	3.9%	1.5%	0.1%		
30	0.1%	3.8%	1.2%	6.8%	4.1%	3.9%	2.1%	0.0%		
60	0.5%	2.6%	2.0%	4.7%	2.9%	2.5%	1.4%	0.0%		
90	0.4%	1.2%	1.1%	6.3%	4.7%	3.1%	1.8%	0.0%		

Table D.31 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 50 ft vs. Baseline at 40 ft (SJRHBP Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	2.1%	1.0%	0.5%	1.1%	0.9%	0.1%
7	0.0%	0.1%	1.7%	1.2%	0.5%	0.9%	1.1%	0.1%
30	0.0%	0.0%	2.5%	0.7%	0.5%	0.8%	0.6%	0.0%
60	0.0%	0.1%	1.9%	1.3%	1.1%	0.9%	0.6%	0.0%
90	0.0%	0.5%	2.4%	1.9%	0.7%	0.4%	0.6%	0.0%
Layer 5	Salinity (opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	2.1%	1.0%	0.6%	0.6%	0.6%	0.3%
7	0.0%	0.1%	1.6%	1.2%	0.8%	0.7%	0.9%	0.3%
30	0.0%	0.0%	1.6%	0.8%	0.5%	0.5%	0.6%	0.0%
60	0.0%	0.1%	1.9%	0.8%	0.7%	0.7%	2.6%	0.0%
90	0.0%	0.5%	2.3%	2.5%	0.6%	1.1%	1.0%	0.0%
Layer 4	Salinity (opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	2.1%	1.0%	0.5%	0.5%	0.9%	0.1%
7	0.0%	0.1%	1.7%	1.2%	0.8%	0.4%	0.6%	0.1%
30	0.0%	0.0%	1.5%	0.8%	0.8%	0.5%	0.4%	0.2%
60	0.0%	0.1%	2.7%	0.6%	0.7%	1.3%	1.2%	0.0%
90	0.0%	0.4%	2.3%	0.8%	0.6%	1.0%	0.5%	0.0%
Layer 3	Salinity (opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	2.2%	1.0%	0.5%	0.5%	0.5%	0.3%
7	0.0%	0.0%	1.7%	1.2%	0.5%	0.5%	0.4%	0.3%
30	0.0%	0.0%	2.5%	0.9%	0.7%	0.5%	0.5%	0.1%
60	0.0%	0.2%	3.5%	0.7%	0.7%	0.9%	0.5%	0.0%
90	0.0%	0.4%	2.4%	0.5%	0.5%	1.2%	0.5%	0.0%
Layer 2	Salinity (opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	2.2%	1.0%	0.5%	0.5%	0.7%	0.3%
7	0.0%	0.0%	1.7%	1.2%	0.5%	0.3%	0.2%	0.4%
30	0.0%	0.0%	1.5%	0.6%	0.7%	0.4%	0.6%	0.1%
60	0.0%	0.2%	3.6%	0.7%	0.6%	0.8%	0.3%	0.0%
90	0.0%	0.4%	2.4%	0.6%	0.5%	1.4%	0.4%	0.0%
Layer 1 (Bottom)	Salinity (opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	2.2%	1.0%	0.5%	0.4%	0.6%	0.3%
7	0.0%	0.0%	1.7%	1.3%	0.5%	0.4%	0.2%	0.5%
30	0.0%	0.0%	1.4%	0.7%	0.7%	0.5%	0.8%	0.2%
60	0.0%	0.2%	4.0%	0.8%	0.5%	0.7%	0.3%	0.5%
90	0.0%	0.4%	2.9%	0.8%	0.5%	1.4%	0.8%	0.0%

Table D.32 Difference in Percent of Time Model Results Exceeds Salinity Levels Project at 50 ft vs. Baseline at 40 ft (Shands Bridge Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Layer 6 (Surface)	Salinity (opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.5%	1.7%	0.9%	0.2%	0.3%	0.0%
7	0.0%	0.0%	0.5%	1.6%	0.8%	0.7%	0.2%	0.0%
30	0.0%	0.0%	0.4%	1.6%	1.0%	0.7%	0.1%	0.0%
60	0.0%	0.0%	0.8%	1.3%	0.9%	1.0%	0.0%	0.0%
90	0.0%	0.0%	1.0%	0.9%	1.3%	2.1%	0.0%	0.0%
Layer 5	Salinity (opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.6%	1.6%	0.6%	0.6%	0.4%	0.0%
7	0.0%	0.0%	0.5%	1.7%	0.7%	0.6%	0.4%	0.0%
30	0.0%	0.0%	0.4%	1.8%	1.0%	0.6%	0.5%	0.0%
60	0.0%	0.0%	0.8%	1.3%	0.9%	1.3%	0.0%	0.0%
90	0.0%	0.0%	0.9%	0.8%	1.2%	0.7%	0.0%	0.0%
Layer 4	Salinity (opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.6%	1.5%	0.8%	0.6%	0.3%	0.0%
7	0.0%	0.0%	0.5%	1.8%	0.7%	0.6%	0.4%	0.0%
30	0.0%	0.0%	0.4%	2.5%	1.3%	0.5%	0.4%	0.0%
60	0.0%	0.0%	1.0%	1.1%	0.7%	1.3%	0.0%	0.0%
90	0.0%	0.0%	0.6%	0.9%	1.0%	0.5%	0.0%	0.0%
Layer 3	Salinity (opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.6%	1.6%	0.6%	0.5%	0.4%	0.0%
7	0.0%	0.0%	0.5%	1.7%	0.6%	0.4%	0.5%	0.0%
30	0.0%	0.0%	0.4%	2.8%	1.4%	0.5%	0.4%	0.0%
60	0.0%	0.0%	0.9%	1.1%	0.7%	1.0%	0.1%	0.0%
90	0.0%	0.0%	0.7%	0.8%	0.8%	0.6%	0.0%	0.0%
Layer 2	Salinity (opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.6%	1.6%	0.7%	0.6%	0.3%	0.0%
7	0.0%	0.0%	0.5%	1.8%	0.5%	0.3%	0.6%	0.0%
30	0.0%	0.0%	0.5%	2.7%	1.5%	0.5%	0.3%	0.0%
60	0.0%	0.0%	0.9%	1.3%	0.8%	0.9%	1.0%	0.0%
90	0.0%	0.0%	0.7%	0.8%	0.9%	0.7%	0.0%	0.0%
Layer 1 (Bottom)	Salinity (opt) greate	r than					
Moving Average Period (day)	0.1	0.25	0.5	1	2	3	5	10
1	0.0%	0.0%	0.6%	1.5%	0.8%	0.6%	0.3%	0.0%
7	0.0%	0.0%	0.5%	1.8%	0.7%	0.2%	0.5%	0.0%
30	0.0%	0.0%	0.4%	2.6%	1.3%	0.5%	0.3%	0.0%
60	0.0%	0.0%	0.8%	1.4%	0.7%	0.8%	0.4%	0.0%
90	0.0%	0.0%	0.6%	0.8%	1.3%	0.5%	0.0%	0.0%

Summary of Comparisons of
Project at 44 ft, 46 ft, and 50 ft Alternatives Water Age
and
Baseline at 40 ft Water Age
(Deepening with 0.39 ft Sea Level Rise and 155 MGD Water Withdrawal)

Table D.33 Percent of Time Model Results Exceeds Water Age for Baseline at 40 ft (Dames Point Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than

Model Layer	30	60	90	120	150	180	210	240
6 (top)	100.0%	99.0%	92.9%	78.5%	43.0%	16.7%	4.7%	0.0%
5	100.0%	99.7%	96.7%	81.5%	43.7%	15.1%	3.4%	0.0%
4	100.0%	100.0%	98.0%	83.1%	44.2%	14.6%	2.4%	0.0%
3	100.0%	100.0%	98.7%	84.3%	44.1%	14.7%	1.6%	0.0%
2	100.0%	100.0%	99.4%	85.4%	44.8%	15.0%	1.3%	0.0%
1 (bottom)	100.0%	100.0%	99.6%	86.2%	45.2%	15.3%	0.9%	0.0%

Table D.34 Percent of Time Model Results Exceeds Water Age for Baseline at 40 ft (Acosta Bridge Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than

Daily water age (ady) Breater than								
Model Layer	30	60	90	120	150	180	210	240
6 (top)	100.0%	96.4%	86.0%	70.0%	44.4%	23.3%	8.3%	0.0%
5	100.0%	97.0%	87.0%	72.3%	44.4%	22.4%	7.8%	0.0%
4	100.0%	97.1%	87.7%	73.0%	44.8%	21.9%	7.7%	0.0%
3	100.0%	97.2%	88.3%	73.4%	44.9%	21.8%	7.6%	0.0%
2	100.0%	97.3%	88.6%	73.6%	44.9%	21.6%	7.4%	0.0%
1 (bottom)	100.0%	97.4%	88.9%	73.9%	45.0%	21.2%	7.4%	0.0%

Table D.35 Percent of Time Model Results Exceeds Water Age for Baseline at 40 ft (SAVPTLV Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than

Model Layer	30	60	90	120	150	180	210	240
6 (top)	100.0%	95.6%	84.4%	66.2%	44.4%	25.8%	11.1%	0.2%
5	100.0%	95.6%	84.5%	66.4%	44.3%	25.7%	10.6%	0.2%
4	100.0%	95.7%	84.5%	66.7%	44.4%	25.4%	10.5%	0.1%
3	100.0%	95.7%	84.5%	67.0%	44.3%	25.3%	10.4%	0.1%
2	100.0%	95.7%	84.6%	67.1%	44.3%	25.2%	10.3%	0.1%
1 (bottom)	100.0%	95.7%	84.6%	67.1%	44.3%	25.2%	10.3%	0.1%

Table D.36 Percent of Time Model Results Exceeds Water Age for Baseline at 40 ft (JAXSJR40 Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than

Model Layer	30	60	90	120	150	180	210	240
6 (top)	100.0%	94.6%	83.1%	64.3%	43.6%	26.0%	12.0%	0.3%
5	100.0%	94.7%	83.3%	65.0%	43.7%	25.7%	11.7%	0.3%
4	100.0%	94.7%	83.6%	65.6%	43.8%	25.5%	11.3%	0.2%
3	100.0%	94.7%	83.7%	66.0%	43.9%	25.1%	11.1%	0.2%
2	100.0%	94.7%	83.8%	66.4%	44.1%	24.9%	10.8%	0.2%
1 (bottom)	100.0%	94.8%	83.9%	66.6%	44.0%	24.7%	10.6%	0.2%

Table D.37 Percent of Time Model Results Exceeds Water Age for Baseline at 40 ft (SAVBOLS Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than

Model Layer	30	60	90	120	150	180	210	240
6 (top)	100.0%	94.8%	82.8%	62.4%	43.5%	26.3%	12.5%	0.5%
5	100.0%	94.8%	82.8%	62.5%	43.5%	26.3%	12.4%	0.5%
4	100.0%	94.8%	82.8%	62.5%	43.5%	26.3%	12.4%	0.5%
3	100.0%	94.8%	82.8%	62.7%	43.5%	26.2%	12.3%	0.5%
2	100.0%	94.8%	82.8%	62.7%	43.6%	26.2%	12.1%	0.5%
1 (bottom)	100.0%	94.8%	82.9%	62.8%	43.6%	26.1%	12.1%	0.4%

Table D.38 Percent of Time Model Results Exceeds Water Age for Baseline at 40 ft (Buckman Bridge Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than

	2 and 11 ares 180 (and 18 order 11 ares									
Model Layer	30	60	90	120	150	180	210	240		
6 (top)	100.0%	92.8%	79.5%	55.2%	41.2%	25.3%	12.1%	0.4%		
5	100.0%	92.8%	79.7%	57.3%	41.7%	25.5%	12.5%	0.7%		
4	100.0%	92.8%	79.8%	58.3%	42.1%	25.5%	12.4%	0.8%		
3	100.0%	92.8%	79.9%	59.3%	42.3%	25.2%	12.3%	0.7%		
2	100.0%	92.8%	80.1%	60.0%	42.5%	25.1%	12.0%	0.8%		
1 (bottom)	100.0%	92.8%	80.1%	60.6%	42.7%	24.9%	11.9%	0.6%		

Table D.39 Percent of Time Model Results Exceeds Water Age for Baseline at 40 ft (SJRHBP Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than

Model Layer	30	60	90	120	150	180	210	240
6 (top)	99.3%	87.2%	67.6%	45.8%	29.4%	19.0%	4.1%	0.0%
5	99.3%	87.2%	67.7%	46.0%	29.8%	19.4%	5.4%	0.0%
4	99.3%	87.3%	67.7%	46.2%	30.2%	19.9%	6.4%	0.0%
3	99.3%	87.3%	67.8%	46.3%	30.7%	20.0%	7.3%	0.0%
2	99.3%	87.3%	67.8%	46.3%	30.9%	20.1%	7.6%	0.0%
1 (bottom)	99.3%	87.3%	67.8%	46.4%	31.0%	20.1%	7.7%	0.0%

Table D.40 Percent of Time Model Results Exceeds Water Age for Baseline at 40 ft (Shands Bridge Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than

Model Layer	30	60	90	120	150	180	210	240
6 (top)	99.9%	86.7%	62.5%	43.0%	26.6%	13.8%	3.3%	0.0%
5	99.9%	86.7%	62.5%	43.0%	26.6%	14.1%	3.4%	0.0%
4	99.9%	86.7%	62.5%	43.0%	26.7%	14.2%	3.6%	0.0%
3	99.9%	86.7%	62.5%	43.0%	26.8%	14.3%	3.9%	0.0%
2	99.9%	86.7%	62.5%	43.1%	26.9%	14.3%	3.9%	0.0%
1 (bottom)	99.9%	86.7%	62.5%	43.1%	26.9%	14.3%	4.1%	0.0%

Table D.41 Difference in Percent of Time Model Results Exceeds Water Age Project at 44 ft vs. Baseline at 40 ft (Dames Point Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than								
Model Layer	30	60	90	120	150	180	210	240
6 (top)	0.0%	0.1%	0.5%	-0.2%	-1.7%	-1.1%	-1.9%	0.0%
5	0.0%	0.0%	-0.5%	-0.5%	-2.3%	-0.8%	-1.9%	0.0%
4	0.0%	0.0%	-0.2%	-0.3%	-2.6%	-1.0%	-1.6%	0.0%
3	0.0%	0.0%	-0.2%	-0.5%	-2.3%	-1.3%	-1.2%	0.0%
2	0.0%	0.0%	-0.1%	-0.7%	-2.6%	-1.7%	-1.0%	0.0%
1 (bottom)	0.0%	0.0%	0.0%	-0.7%	-2.9%	-2.0%	-0.8%	0.0%

Table D.42 Difference in Percent of Time Model Results Exceeds Water Age Project at 44 ft vs. Baseline at 40 ft (Acosta Bridge Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than								
Model Layer	30	60	90	120	150	180	210	240
6 (top)	0.0%	0.2%	0.2%	0.1%	-0.5%	-1.6%	-1.1%	0.0%
5	0.0%	0.0%	0.4%	-0.2%	-0.5%	-1.6%	-1.0%	0.0%
4	0.0%	0.1%	0.4%	0.0%	-0.9%	-1.4%	-1.1%	0.0%
3	0.0%	0.0%	0.4%	0.0%	-0.8%	-1.4%	-1.0%	0.0%
2	0.0%	0.0%	0.7%	0.1%	-0.9%	-1.5%	-1.0%	0.0%
1 (bottom)	0.0%	0.0%	0.7%	0.0%	-1.0%	-1.2%	-1.0%	0.0%

Table D.43 Difference in Percent of Time Model Results Exceeds Water Age Project at 44 ft vs. Baseline at 40 ft (SAVPTLV Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than									
Model Layer	30	60	90	120	150	180	210	240	
6 (top)	0.0%	0.0%	0.1%	-0.2%	-0.8%	-1.1%	-2.1%	-0.2%	
5	0.0%	0.1%	0.0%	0.0%	-0.6%	-1.4%	-1.9%	-0.2%	
4	0.0%	0.1%	0.1%	0.0%	-0.7%	-1.2%	-1.9%	-0.1%	
3	0.0%	0.1%	0.1%	-0.1%	-0.6%	-1.3%	-1.9%	-0.1%	
2	0.0%	0.1%	0.0%	-0.1%	-0.7%	-1.2%	-1.7%	-0.1%	
1 (bottom)	0.0%	0.1%	0.0%	-0.1%	-0.6%	-1.3%	-1.7%	-0.1%	

Table D.44 Difference in Percent of Time Model Results Exceeds Water Age Project at 44 ft vs. Baseline at 40 ft (JAXSJR40 Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than								
Model Layer	30	60	90	120	150	180	210	240
6 (top)	0.0%	0.1%	0.1%	0.1%	-0.9%	-0.6%	-2.1%	-0.3%
5	0.0%	0.1%	0.2%	0.0%	-0.7%	-1.0%	-2.3%	-0.3%
4	0.0%	0.2%	0.1%	-0.1%	-0.8%	-1.2%	-2.2%	-0.2%
3	0.0%	0.2%	0.1%	-0.2%	-1.0%	-1.1%	-2.2%	-0.2%
2	0.0%	0.2%	0.0%	-0.2%	-1.2%	-1.2%	-2.1%	-0.2%
1 (bottom)	0.0%	0.1%	0.0%	-0.2%	-1.0%	-1.3%	-2.0%	-0.2%

Table D.45 Difference in Percent of Time Model Results Exceeds Water Age Project at 44 ft vs. Baseline at 40 ft (SAVBOLS Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than								
Model Layer	30	60	90	120	150	180	210	240
6 (top)	0.0%	0.1%	0.0%	0.0%	-0.5%	-0.5%	-1.2%	-0.4%
5	0.0%	0.1%	0.0%	0.0%	-0.5%	-0.5%	-1.4%	-0.4%
4	0.0%	0.1%	0.0%	0.0%	-0.6%	-0.5%	-1.4%	-0.4%
3	0.0%	0.0%	0.0%	-0.1%	-0.6%	-0.6%	-1.5%	-0.4%
2	0.0%	0.0%	0.0%	-0.1%	-0.7%	-0.6%	-1.3%	-0.4%
1 (bottom)	0.0%	0.0%	0.0%	-0.1%	-0.7%	-0.5%	-1.4%	-0.3%

Table D.46 Difference in Percent of Time Model Results Exceeds Water Age Project at 44 ft vs. Baseline at 40 ft (Buckman Bridge Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than								
Model Layer	30	60	90	120	150	180	210	240
6 (top)	0.0%	0.0%	-0.1%	0.1%	-0.5%	-0.8%	-1.8%	-0.4%
5	0.0%	0.0%	-0.1%	0.0%	-0.6%	-0.4%	-1.7%	-0.7%
4	0.0%	0.0%	-0.2%	0.2%	-0.8%	-0.4%	-1.6%	-0.7%
3	0.0%	0.0%	0.0%	0.0%	-0.8%	-0.4%	-1.6%	-0.6%
2	0.0%	0.0%	-0.1%	0.1%	-1.1%	-0.6%	-1.5%	-0.6%
1 (bottom)	0.0%	0.0%	-0.1%	0.0%	-0.9%	-0.7%	-1.7%	-0.5%

Table D.47 Difference in Percent of Time Model Results Exceeds Water Age Project at 44 ft vs. Baseline at 40 ft (SJRHBP Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (top)	0.0%	-0.1%	0.0%	0.0%	-0.4%	-0.9%	-1.0%	0.0%		
5	0.0%	-0.1%	0.0%	-0.1%	-0.3%	-0.6%	-1.4%	0.0%		
4	0.0%	-0.1%	0.0%	0.0%	-0.5%	-0.7%	-1.4%	0.0%		
3	0.0%	-0.1%	0.1%	0.0%	-0.6%	-0.5%	-1.6%	0.0%		
2	0.0%	0.0%	0.1%	0.0%	-0.6%	-0.5%	-1.5%	0.0%		
1 (bottom)	0.0%	0.0%	0.1%	0.0%	-0.6%	-0.5%	-1.5%	0.0%		

Table D.48 Difference in Percent of Time Model Results Exceeds Water Age Project at 44 ft vs. Baseline at 40 ft (Shands Bridge Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

·	Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240			
6 (top)	0.0%	-0.1%	-0.1%	-0.1%	-0.4%	-0.7%	-0.3%	0.0%			
5	0.0%	-0.1%	-0.1%	-0.1%	-0.3%	-0.8%	-0.4%	0.0%			
4	0.0%	-0.1%	-0.1%	-0.2%	-0.3%	-0.7%	-0.5%	0.0%			
3	0.0%	-0.1%	-0.1%	-0.2%	-0.4%	-0.7%	-0.6%	0.0%			
2	0.0%	-0.1%	-0.1%	-0.2%	-0.5%	-0.6%	-0.4%	0.0%			
1 (bottom)	0.0%	-0.1%	-0.1%	-0.2%	-0.5%	-0.6%	-0.5%	0.0%			

Table D.49 Difference in Percent of Time Model Results Exceeds Water Age Project at 46 ft vs. Baseline at 40 ft (Dames Point Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (top)	0.0%	0.2%	0.6%	0.2%	-1.5%	-1.0%	-1.9%	0.0%		
5	0.0%	0.0%	-0.2%	-0.5%	-2.1%	-0.5%	-1.4%	0.0%		
4	0.0%	0.0%	0.0%	-0.4%	-2.4%	-0.7%	-1.3%	0.0%		
3	0.0%	0.0%	0.0%	-0.3%	-2.2%	-0.9%	-1.0%	0.0%		
2	0.0%	0.0%	0.0%	-0.7%	-2.3%	-1.6%	-0.9%	0.0%		
1 (bottom)	0.0%	0.0%	0.0%	-0.7%	-2.8%	-1.6%	-0.6%	0.0%		

Table D.50 Difference in Percent of Time Model Results Exceeds Water Age Project at 46 ft vs. Baseline at 40 ft (Acosta Bridge Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (top)	0.0%	0.4%	0.2%	0.5%	-0.5%	-1.6%	-1.1%	0.0%		
5	0.0%	0.1%	0.4%	0.1%	-0.5%	-1.2%	-1.0%	0.0%		
4	0.0%	0.1%	0.5%	0.3%	-0.7%	-1.1%	-1.0%	0.0%		
3	0.0%	0.2%	0.4%	0.1%	-0.9%	-1.0%	-0.8%	0.0%		
2	0.0%	0.1%	0.6%	0.2%	-0.9%	-1.1%	-0.9%	0.0%		
1 (bottom)	0.0%	0.2%	0.6%	0.2%	-1.1%	-0.9%	-0.8%	0.0%		

Table D.51 Difference in Percent of Time Model Results Exceeds Water Age Project at 46 ft vs. Baseline at 40 ft (SAVPTLV Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (top)	0.0%	0.1%	0.0%	0.1%	-0.8%	-1.1%	-1.9%	-0.2%		
5	0.0%	0.2%	0.0%	0.3%	-0.7%	-1.4%	-1.7%	-0.2%		
4	0.0%	0.1%	0.0%	0.3%	-0.7%	-1.4%	-1.9%	-0.1%		
3	0.0%	0.1%	0.1%	0.1%	-0.7%	-1.4%	-1.8%	-0.1%		
2	0.0%	0.2%	0.0%	0.0%	-0.7%	-1.4%	-1.7%	-0.1%		
1 (bottom)	0.0%	0.2%	0.0%	0.0%	-0.7%	-1.3%	-1.7%	-0.1%		

Table D.52 Difference in Percent of Time Model Results Exceeds Water Age Project at 46 ft vs. Baseline at 40 ft (JAXSJR40 Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (top)	0.0%	0.2%	0.1%	0.2%	-0.7%	-0.6%	-1.6%	-0.3%		
5	0.0%	0.2%	0.3%	0.0%	-0.6%	-1.0%	-2.1%	-0.3%		
4	0.0%	0.2%	0.1%	0.0%	-0.8%	-1.2%	-1.8%	-0.2%		
3	0.0%	0.2%	0.1%	0.0%	-0.8%	-1.1%	-1.9%	-0.2%		
2	0.0%	0.2%	0.0%	0.0%	-1.0%	-1.2%	-1.8%	-0.2%		
1 (bottom)	0.0%	0.1%	0.0%	0.0%	-1.0%	-1.4%	-1.8%	-0.2%		

Table D.53 Difference in Percent of Time Model Results Exceeds Water Age Project at 46 ft vs. Baseline at 40 ft (SAVBOLS Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (top)	0.0%	0.2%	0.1%	0.2%	-0.4%	-0.5%	-0.9%	-0.4%		
5	0.0%	0.2%	0.1%	0.2%	-0.4%	-0.5%	-0.9%	-0.4%		
4	0.0%	0.2%	0.1%	0.3%	-0.4%	-0.5%	-1.1%	-0.4%		
3	0.0%	0.1%	0.1%	0.3%	-0.5%	-0.6%	-1.1%	-0.4%		
2	0.0%	0.1%	0.1%	0.3%	-0.5%	-0.6%	-1.0%	-0.4%		
1 (bottom)	0.0%	0.2%	0.1%	0.3%	-0.4%	-0.5%	-1.0%	-0.3%		

Table D.54 Difference in Percent of Time Model Results Exceeds Water Age Project at 46 ft vs. Baseline at 40 ft (Buckman Bridge Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than											
Model Layer	30	60	90	120	150	180	210	240			
6 (top)	0.0%	0.0%	0.0%	0.3%	-0.6%	-0.6%	-1.2%	-0.4%			
5	0.0%	0.0%	0.1%	0.2%	-0.5%	-0.4%	-1.1%	-0.7%			
4	0.0%	0.0%	0.1%	0.1%	-0.7%	-0.4%	-1.2%	-0.7%			
3	0.0%	0.0%	0.1%	0.2%	-0.8%	-0.4%	-1.0%	-0.6%			
2	0.0%	0.0%	0.1%	0.2%	-0.9%	-0.6%	-1.1%	-0.6%			
1 (bottom)	0.0%	0.0%	0.1%	0.0%	-0.9%	-0.7%	-1.3%	-0.5%			

Table D.55 Difference in Percent of Time Model Results Exceeds Water Age Project at 46 ft vs. Baseline at 40 ft (SJRHBP Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (top)	0.0%	0.0%	-0.1%	0.0%	-0.5%	-0.8%	-1.0%	0.0%		
5	0.0%	0.0%	0.0%	0.0%	-0.4%	-0.5%	-1.5%	0.0%		
4	0.0%	0.0%	0.0%	0.0%	-0.6%	-0.7%	-1.4%	0.0%		
3	0.0%	0.0%	0.0%	0.0%	-0.6%	-0.4%	-1.6%	0.0%		
2	0.0%	0.0%	0.0%	0.0%	-0.5%	-0.4%	-1.5%	0.0%		
1 (bottom)	0.0%	0.0%	0.0%	0.0%	-0.5%	-0.4%	-1.5%	0.0%		

Table D.56 Difference in Percent of Time Model Results Exceeds Water Age Project at 46 ft vs. Baseline at 40 ft (Shands Bridge Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (top)	0.0%	0.0%	-0.1%	-0.1%	-0.4%	-0.7%	-0.3%	0.0%		
5	0.0%	0.0%	-0.1%	-0.1%	-0.3%	-0.8%	-0.4%	0.0%		
4	0.0%	0.0%	-0.1%	-0.1%	-0.3%	-0.7%	-0.5%	0.0%		
3	0.0%	0.0%	-0.1%	-0.1%	-0.4%	-0.8%	-0.7%	0.0%		
2	0.0%	0.0%	-0.1%	-0.2%	-0.5%	-0.7%	-0.4%	0.0%		
1 (bottom)	0.0%	0.0%	-0.1%	-0.2%	-0.5%	-0.6%	-0.5%	0.0%		

Table D.57 Difference in Percent of Time Model Results Exceeds Water Age Project at 50 ft vs. Baseline at 40 ft (Dames Point Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (top)	0.0%	0.3%	1.1%	0.5%	-0.7%	-0.6%	-1.0%	0.0%		
5	0.0%	0.0%	0.0%	-0.4%	-1.0%	-0.2%	-0.8%	0.0%		
4	0.0%	0.0%	-0.1%	-0.4%	-1.2%	-0.5%	-0.7%	0.0%		
3	0.0%	0.0%	-0.1%	-0.3%	-0.8%	-1.1%	-0.5%	0.0%		
2	0.0%	0.0%	0.0%	-0.6%	-1.1%	-1.4%	-0.5%	0.0%		
1 (bottom)	0.0%	0.0%	0.0%	-0.5%	-1.0%	-1.6%	-0.3%	0.0%		

Table D.58 Difference in Percent of Time Model Results Exceeds Water Age Project at 50 ft vs. Baseline at 40 ft (Acosta Bridge Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (top)	0.0%	0.5%	0.3%	1.1%	-0.1%	-1.0%	-0.7%	0.0%		
5	0.0%	0.2%	0.6%	0.8%	-0.2%	-0.9%	-0.6%	0.0%		
4	0.0%	0.2%	0.7%	0.5%	-0.3%	-0.7%	-0.6%	0.0%		
3	0.0%	0.3%	0.8%	0.4%	-0.3%	-0.6%	-0.5%	0.0%		
2	0.0%	0.4%	1.0%	0.7%	-0.4%	-0.6%	-0.4%	0.0%		
1 (bottom)	0.0%	0.3%	1.1%	0.5%	-0.5%	-0.4%	-0.4%	0.0%		

Table D.59 Difference in Percent of Time Model Results Exceeds Water Age Project at 50 ft vs. Baseline at 40 ft (SAVPTLV Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (top)	0.0%	0.1%	0.1%	0.6%	-0.3%	-0.5%	-0.9%	-0.1%		
5	0.0%	0.2%	0.1%	1.0%	-0.1%	-0.8%	-0.8%	-0.1%		
4	0.0%	0.2%	0.2%	0.8%	-0.2%	-0.6%	-0.9%	0.0%		
3	0.0%	0.2%	0.2%	0.8%	-0.2%	-0.7%	-0.9%	0.0%		
2	0.0%	0.2%	0.3%	0.9%	-0.1%	-0.7%	-0.9%	0.0%		
1 (bottom)	0.0%	0.3%	0.3%	0.9%	-0.1%	-0.7%	-0.9%	0.0%		

Table D.60 Difference in Percent of Time Model Results Exceeds Water Age Project at 50 ft vs. Baseline at 40 ft (JAXSJR40 Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (top)	0.0%	0.3%	0.4%	0.7%	0.0%	-0.2%	-0.5%	-0.2%		
5	0.0%	0.3%	0.5%	0.5%	0.0%	-0.3%	-0.7%	-0.1%		
4	0.0%	0.3%	0.3%	0.5%	-0.1%	-0.6%	-0.7%	0.0%		
3	0.0%	0.3%	0.2%	0.8%	0.1%	-0.5%	-0.9%	0.0%		
2	0.0%	0.3%	0.1%	0.6%	0.0%	-0.6%	-1.0%	-0.1%		
1 (bottom)	0.0%	0.2%	0.1%	0.7%	0.1%	-0.7%	-0.9%	-0.1%		

Table D.61 Difference in Percent of Time Model Results Exceeds Water Age Project at 50 ft vs. Baseline at 40 ft (SAVBOLS Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (top)	0.0%	0.3%	0.1%	0.7%	0.1%	-0.1%	-0.1%	-0.3%		
5	0.0%	0.3%	0.2%	0.5%	0.1%	-0.1%	-0.2%	-0.2%		
4	0.0%	0.3%	0.2%	0.6%	0.2%	-0.1%	-0.3%	-0.2%		
3	0.0%	0.2%	0.2%	0.5%	0.2%	-0.1%	-0.4%	-0.2%		
2	0.0%	0.2%	0.2%	0.6%	0.2%	-0.1%	-0.4%	-0.2%		
1 (bottom)	0.0%	0.3%	0.2%	0.6%	0.2%	-0.1%	-0.4%	-0.2%		

Table D.62 Difference in Percent of Time Model Results Exceeds Water Age Project at 50 ft vs. Baseline at 40 ft (Buckman Bridge Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

	Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240			
6 (top)	0.0%	0.1%	0.3%	1.2%	0.3%	0.0%	-0.1%	-0.2%			
5	0.0%	0.1%	0.3%	0.9%	0.2%	0.0%	-0.2%	-0.4%			
4	0.0%	0.1%	0.3%	1.0%	0.0%	0.0%	-0.4%	-0.5%			
3	0.0%	0.2%	0.3%	1.0%	0.0%	-0.1%	-0.4%	-0.4%			
2	0.0%	0.2%	0.2%	1.0%	0.0%	-0.3%	-0.4%	-0.3%			
1 (bottom)	0.0%	0.2%	0.3%	0.8%	0.0%	-0.3%	-0.6%	-0.2%			

Table D.63 Difference in Percent of Time Model Results Exceeds Water Age Project at 50 ft vs. Baseline at 40 ft (SJRHBP Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240		
6 (top)	0.0%	0.1%	0.5%	0.1%	0.5%	0.0%	0.0%	0.0%		
5	0.0%	0.1%	0.5%	0.2%	0.5%	0.1%	-0.1%	0.0%		
4	0.0%	0.1%	0.5%	0.2%	0.4%	0.0%	-0.1%	0.0%		
3	0.0%	0.1%	0.5%	0.2%	0.4%	0.1%	-0.4%	0.0%		
2	0.0%	0.1%	0.5%	0.2%	0.3%	0.0%	0.0%	0.0%		
1 (bottom)	0.0%	0.1%	0.5%	0.2%	0.3%	0.1%	0.0%	0.0%		

Table D.64 Difference in Percent of Time Model Results Exceeds Water Age Project at 50 ft vs. Baseline at 40 ft (Shands Bridge Station, 0.39 ft SLR and 155 MGD Water Withdrawal)

	Daily water age (day) greater than										
Model Layer	30	60	90	120	150	180	210	240			
6 (top)	0.0%	0.0%	0.5%	0.4%	0.0%	0.0%	0.0%	0.0%			
5	0.0%	0.0%	0.5%	0.4%	0.0%	0.0%	-0.1%	0.0%			
4	0.0%	0.0%	0.5%	0.3%	0.0%	-0.1%	0.0%	0.0%			
3	0.0%	0.0%	0.5%	0.4%	0.0%	-0.2%	-0.1%	0.0%			
2	0.0%	0.0%	0.5%	0.3%	0.0%	-0.1%	0.0%	0.0%			
1 (bottom)	0.0%	0.0%	0.5%	0.3%	0.0%	-0.1%	0.0%	0.0%			

APPENDIX D

EFDC Model Results Post-Processing Procedure

This appendix describes the procedure for preparing the USACE model results for input data for five ecological models, namely submerged aquatic vegetation (SAV), wetlands, fish, plankton, and nenthic macroinvertebrates (BMI).

Taylor Engineering developed a Fortran program to extract data from the USACE model solution file. The USACE model solution file (EE_WC.out) contains hourly salinity and water age values and generate the input data required by ecological models. The post-processing program package includes:

- ECO XXX.exe executable file;
- EFDCOUTEXTRA.f90 and GlobalVaribles.f90 source code files;
- CELL.inp, LXLY.inp USACE model cells information;
- EFDC.inp master control input file where user can select the cells (or layer if the results from a specified layer is required)
- EE WC.out USACE model Solution file

Submerged Aquatic Vegetation (SAV)

The SAV model evaluates the potential effect of changes in salinity on submearged aquatic vegetation. The SAV model requires as input data the 7-, 30-, and 90-day moving average of the shoreline surface salinity. Thus, the SAV evaluation area includes only USACE model cells adjacent to the shoreline approximately between river Mile 24 and 48 (Figure 1). Seven-day, 30-day, and 90-day moving average surface salinities calculated from daily average salinity provide input to the SAV model. The post-processing follows the following steps.

- 1. List the required cells in EFDC.inp.
- 2. Run the program ECO XXX.exe. The program will
 - a. Program extracts the top layer hourly salinity data and save the results at salt ts.txt;
 - b. Program calculates the daily average salinity value of each listed cell and save the results to SALT_DAILY.TXT;
 - c. Program calculates 7-, 30-, and 90-day moving average salinities and save these to SALT_7_AVE.TXT , SALT_30_AVE.TXT and SALT_90_AVE.TXT.



Figure 1 USACE Model Shoreline Cells for SAV Model

Wetlands

The wetland vegetation model evaluates the potential effects of channel deepening on wetland vegetation communities to movement of salinity isopleths in Lower St. Johns River. The wetland vegetation model requires the mean of depth-averaged salinity for all USACE model cells downstream of Lake George and Cypress Lake to the mouth of the river (Figure 2). The post-processing

program calculated the mean of depth-averaged salinity from USACE model hourly salinity data. The post-processing follows the following steps.

- 1. List the required cells in EFDC.inp.
- 2. Run the program ECO XXX.exe. The program will
 - a. Extract the hourly salinity data and calculate the vertical averaged hourly value at each cell;
 - b. Using the hourly values, calculate the daily average salinity value at each cell. Save the results to SALT_DAILY.TXT;
 - c. Calculate the mean salinity value at each cell over the entire simulation period and save the results to SALT AVE.TXT.

Fish

The fish model evaluates the potential effects of channel deepening on the spatial coverage of five salinity habitat blocks communities in Lower St. Johns River (Figure 2). Periods of maximum average salinity (30-, 60-, and 90-day) determined from baseline and alternative scenarios by year provided basis for fish model. Periods of maximum average for the baseline scenario were determined by examining running daily and vertical averages of basin-wide salinity. The post-processing follows the following steps.

- 1. List the required cells in EFDC.inp.
- 2. Run the program ECO XXX.exe. The program will
 - a. Extract the hourly salinity data of all layers at each cell. Calculate the vertical average value and save the results to SALT_TS.txt.
 - b. Using the file SALT_TS.txt, calculate the daily average salinity value at each cell. Save the results to SALT_DAILY.txt.
 - c. Calculate basin wide mean salinity using the daily average salinity value at each cell and store that data to a temporary file.
 - d. Calculate the 30-day moving average salinity at each cell and basin wide mean 30-day moving average salinity. Save the resulting dataset in SALT_MEAN_30.txt. The date of each year is determined at the baseline condition, not necessarily the date with highest basin wide mean moving average values for the other scenarios.
 - e. Within each year of mean 30-day moving average values, determine the date with the highest basin-wide mean 30-day moving average salinity. From file SALT_MEAN_30.txt extract the basin-wide cell data for the day in each year with the highest basin-wide 30-day moving average salinity. Store the daily average

- salinity data for that day in each year to SALT_30_MAX.txt. Stored data will include the day date, and the salinity value.
- f. Repeat step (d) and (e) for 60-day and 90-day moving average. The date of each year is determined at the baseline condition, not necessarily the date with highest basin wide mean moving average values for the other scenarios. Data will be saved in SALT_60_MAX.txt and SALT_90_MAX.txt.



Figure 2 USACE Model Cells for Wetland, Fish, and BMI Models

Benthic Macroinvertebrates (BMI)

Assessment of changes in total benthic populations requires salinity zone area changes. In turn, assessment of changes in salinity zone areas requires output similar to the fish model (Figure 2). Calculated periods of maximum average salinity (30-, 60-, and 90-day) determined from baseline and alternative scenarios by year provided basis for BMI. Periods of maximum average for the baseline scenario were determined by examining running daily averages of basin-wide bottom salinity. Additionally, BMI partial duration frequency analysis modeling required daily maximum bottom salinities at three specified locations (Table 1).

The ECO_XXX.exe post-processing follows the following steps.

- 1. List the required cells in EFDC.inp.
- 2. Run the program ECO XXX.exe. The program will
 - a. Extract the bottom layer hourly salinity data and save the results to SALT TS.txt.
 - b. Determine the daily Max salinity value at each cell and save the results to SALT DAILYMAX.TXT.
 - c. Calculate basin wide mean salinity based on the daily max value at each cell.
 - d. Calculate 30-day moving average salinity at each cell and basin wide mean 30-day moving average salinity (SALT MEAN 30.TXT).
 - e. Determine the date of each year with the highest basin wide mean 30-day moving average salinity and save the 30-days moving average salinity of each cell for that day to SALT_30_MAX.TXT. The date of each year is determined at the baseline condition, not necessarily the date with highest basin wide mean moving average values for the other scenarios.
 - f. Repeat step (d) and (e) for 60-day and 90-day moving average. The date of each year is determined at the baseline condition, not necessarily the date with highest basin wide mean moving average values for the other scenarios. Data will be saved to SALT 60 MAX.TXT and SALT 90 MAX.TXT.

The post-processor program for daily maximum bottom salinity files for three separate cells follows the following steps.

- 1. Extract the bottom layer hourly salinity data and save the results at SALT_TS.txt.
- Determine the daily maximum salinity value of each cell and save the results to SALT_DAILYMAX.txt.

Table 1 Post-Processing Stations for BMI Model

Station	State Plane Florida East NAD 83						
	X (ft)	Y (ft)					
JAXSJR17	460987.5	2193911.0					
JAXSJR40	448481.8	2152256.5					
SJSR16	463032.3	2052159.3					

Plankton

Plankton model evaluates the potential effects of channel deepening on plankton communities based on relationship of plankton metrics to water residence time (water age) at four specified locations (Figure 3 and Table 2). Plankton regression models require differing sets of water age input variables for a series of five-quarter periods. Each period begins with the last quarter of the preceding calendar year (Quarter "A") and extending through the four quarters ("B", "C", "D", "E") of the following calendar year. Within each five-quarter period, the minimum, maximum, and mean water age values for each of seven time periods (April - October, April – August, and Quarters A, B, C, D, and E) and the inverse of the minimum, maximum, and mean water age values are used as independent variables in the Plankton regression calculations. The USACE model's hourly water age results provided the basis for calculation of the water age values. Table 3 shows the variable set required for these models. The post-processing follows the following steps.

- 1. List the required cells in EFDC.inp.
- 2. Run the program ECO XXX.exe. The program will
 - a. Extract the hourly water age data and calculate the vertical average value.
 - b. Using the hourly depth-averaged values, calculate the daily average water age and save the results to WATER AGE DAILY.TXT.
 - c. Copy the daily water age data at selected cells to the plankton metrics Excel table (Plankton Working Table.xlsx) and the Excel table will calculate the statistical parameters for the plankton model.

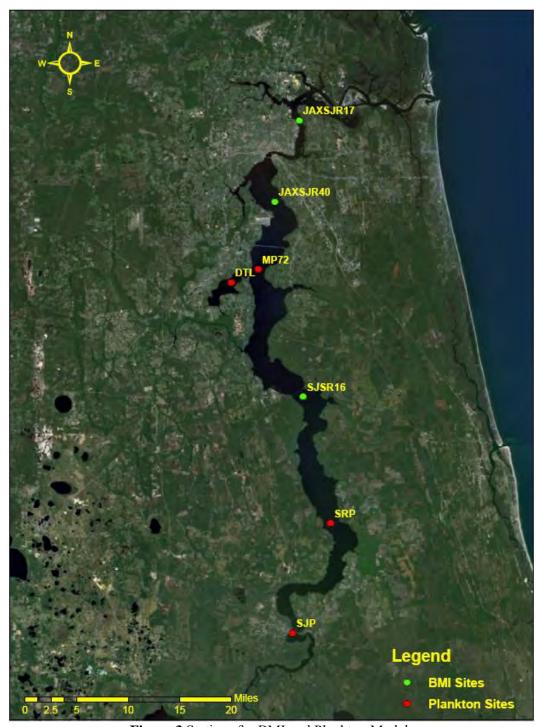


Figure 3 Stations for BMI and Plankton Models

Table 2 Post-Processing Stations for Plankton Model

Station	State Plane Florida East NAD 83						
	X (ft)	Y (ft)					
SJP	457625.2	1930860.9					
SRP	477139.9	1987230.8					
DTL	426290.5	2110868.6					
MP72	440029.7	2117552.3					

 Table 3 Input Variables for Plankton Empirical Regression Models

Variable	A	В	С	D	Е	April - August	April - October
Mean Water Age	>			✓		✓	
Minimum Water Age				✓			
Maximum Water Age	✓		✓		✓		✓
Inverse Mean Water Age	✓	✓	✓		✓		✓
Inverse Minimum Water Age			✓	✓			✓
Inverse Maximum Water Age	✓				✓		